UNIV.OF
TORONTO
LIBRARY



Digitized by the Internet Archive
in 2015

https://archive.org/details/industrialcanada201cana

Vol. XX., No. 1 TORONTO, MAY, 1919 — $2.00 Per Year

INDUSTRIAL CANADA

WE have added to our staff three men. One is an able writer of automobile and its allied trade advertising. One specializes on food and domestic products. The third is a good all-round financial and industrial writer.

If you were in the market for an advertising manager, you would not hesitate to engage any one of these men. But if the amount of advertising you do would not justify the employment of the full time of any one, you can draw upon his experience and counsel to the full extent of your requirements, if you place your advertising through us.

Correspondence invited. No obligation involved.

J. J. GIBBONS, LIMITED

General Advertising Agents

MONTREAL TORONTO WINNIPEG

Cables—Gibjay, Toronto Codes—ABC, 5th Edition

PUBLISHED BY THE CANADIAN MANUFACTURERS ASSOCIATION INCORPORATED.

HEAD OFFICE · TORONTO · BRANCH OFFICES · MONTREAL, HAMILTON, WINNIPEG, VANCOUVER, HALIFAX, QUEBEC.

CORALOX

(AN ELECTRIC FURNACE CORUNDUM)

REDUCES POLISHING COSTS

FREE TRIAL SAMPLE FURNISHED ON REQUEST

Made by

CORALOX LIMITED - Hamilton, Ont.

Succeeding **D. A. BREBNER, Limited**

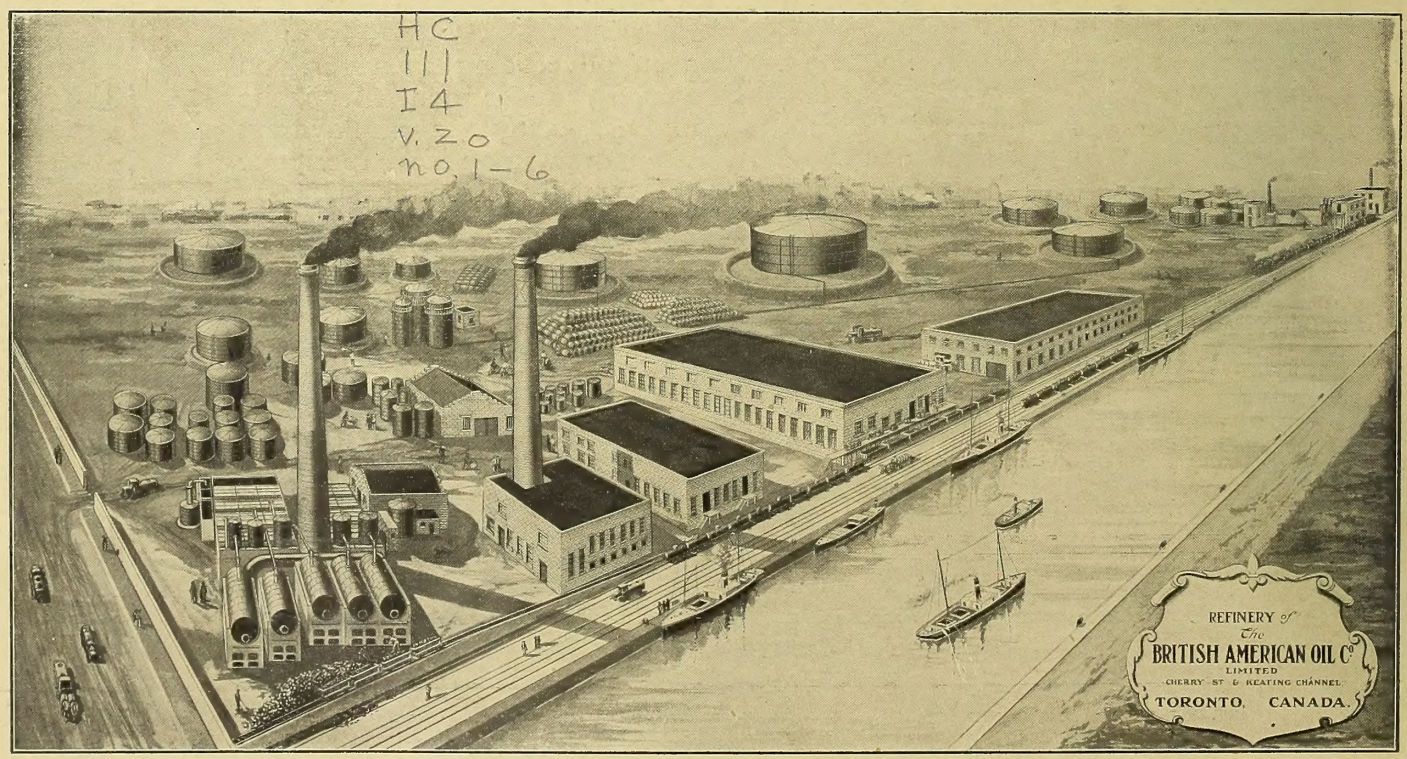


QUALITY FIRST

GALT KNIFE CO., LIMITED

GALT - - - ONTARIO

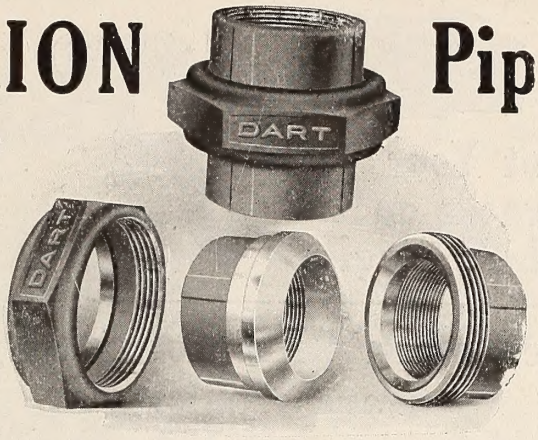
THE BRITISH AMERICAN OIL CO., LIMITED



Head Office: ROYAL BANK BUILDING, TORONTO **Branches: Montreal, Ottawa, London, Windsor, Etc.**

DART UNION Pipe Couplings

"A Guarantee of Permanence"



The First Cost of Dart Unions is Their Only Cost

They require no attention and never have to be replaced. You don't scrap Dart Unions; use again and again. They are always efficient.

The Dart Union Makes a Sure Joint Every Time

The Bronze to Bronze (non-corrosive) machined Ball Joint makes connecting easy and prevents deterioration. Heavy Iron Parts insure strength.

Sold by all jobbers.

BRONZE TO BRONZE

GRACE & CO., LIMITED

DOMINION EXPRESS BUILDING

MONTREAL - CANADA

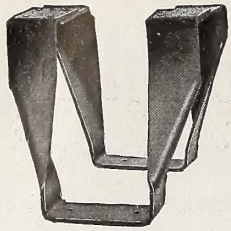
EXPORTERS

IMPORTERS

With our own extensive connections embracing practically all markets of importance we are in an unusual position to advise Canadian Manufacturers regarding Export Opportunities and also to submit offerings of the raw materials in which they are interested.

LONDON NEW YORK LIVERPOOL CALCUTTA
RIO DE JANEIRO LIMA TOKIO SHANGHAI SAN FRANCISCO
VALPARAISO CUBA JAMAICA BUENOS AYRES SANTOS
STOCKHOLM BARCELONA GENOA PARIS

Index to Advertisements.....Page 43 Contents.....Page 45

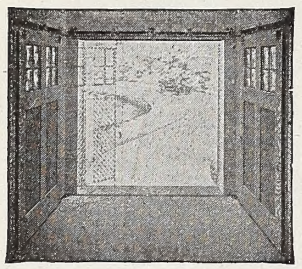


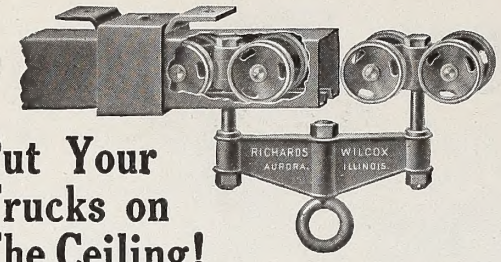
BULLDOG STEEL JOIST HANGERS

They never let go! Stronger than malleable. All sizes and styles for all kinds of work. Save space and time in erection.

GARAGE DOOR HARDWARE OF ALL KINDS FOR ANY PURPOSE

Angle Doors, Parallel Doors, etc. Special jobs receive the prompt attention of our engineering department. Let us know your requirements.





Put Your Trucks on The Ceiling!

The Modern Method of Factory Transportation

A Richards-Wilcox Carrier System—either I-Beam or Trolley—will pay for itself in one year on actual pay-roll saving, not to mention the increased efficiency. Occupies no floor space. Always ready for use. Operates easily, one man can handle 2,500 lbs. Trolley carriers made in sixteen styles and sizes for loads up to 2,500 lbs. For heavier loads use I-Beam Equipment.

Catalogs Upon Request

Richards-Wilcox Canadian Co. Ltd.

AURORA BOSTON NEW YORK CHICAGO London Ontario PHILADELPHIA MINNEAPOLIS SAN. FRANCISCO ST. LOUIS

"A hanger for any door that slides"

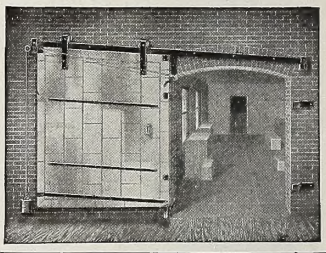


"R-W" TROLLEYS ARE BEST FOR ALL SLIDING DOORS

Specified by leading architects and engineers throughout Canada and the United States. "A hanger for any door that slides."

FIRE DOORS AND FIRE DOOR HARDWARE WITH UNDERWRITERS' LABEL

All styles, single or double, sliding or swinging. A fire door with labeled hardware is the surest way to prevent fire from spreading.



COPPER SPELTER LEAD

Tadanac Brand

PRODUCED IN CANADA

BY

The Consolidated Mining and Smelting Co. of Canada, Ltd.

TRAIL, British Columbia

COPPER—Electrolytic Ingot, Bar, Slab and Cake

SPELTER—High-Grade Electrolytic Zinc, Brass Special and Prime Western

PIG LEAD—Chemical, Corroding and Common

Sales Office: C.P.R. Bldg., Toronto

Canada-Wide Service

THE CANADIAN CROCKER-WHEELER COMPANY, LIMITED, ST. CATHARINES ONT., MANUFACTURERS OF HIGH-GRADE ELECTRICAL APPARATUS, HAVE MADE ARRANGEMENTS WHEREBY THEIR GOODS AND SERVICE WILL BE COMPLETELY AVAILABLE ALL ACROSS CANADA, WITH THE

Northern Electric Company
LIMITED

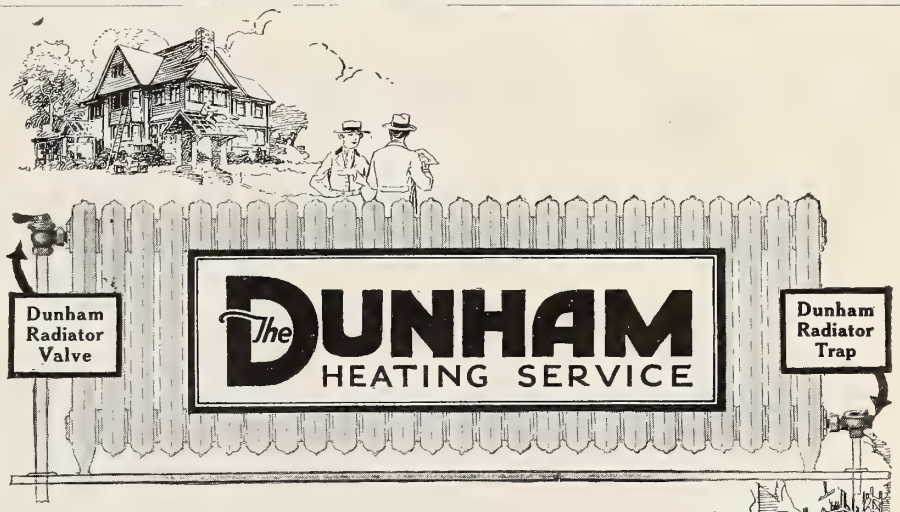
Montreal, Halifax, Ottawa, Toronto, London, Winnipeg, Regina, Calgary, Vancouver

AT ALL OF THE ABOVE OFFICES A STOCK OF CANADIAN CROCKER-WHEELER APPARATUS WILL BE CARRIED. THE OFFICE NEAREST YOU WILL BE ABLE TO GIVE YOU PROMPT SERVICE.

THE CANADIAN
CROCKER - WHEELER COMPANY
LIMITED
Manufacturers and Electrical Engineers

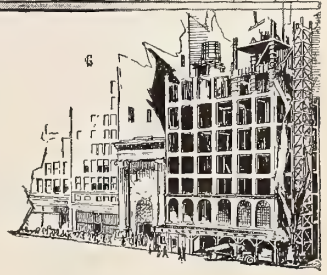
Head Office and Works:
ST. CATHARINES, ONT.

District Offices:
TORONTO and MONTREAL



In all kinds of buildings

From every ton of coal put under the boiler, Dunham Heating Service gives the maximum of heating comfort—not only in large buildings but also in small homes, thus proving that the fundamental principles of Dunham Heating Service are correct. It all goes back to the fact that the water and air that collects in the system must be quickly and automatically removed. This, Dunham Heating Service does by correct designing and the use of the exclusive Dunham specialties. Write for special data.



C. A. DUNHAM COMPANY, LIMITED, Toronto, Ontario

HALIFAX OTTAWA WINNIPEG VANCOUVER CALGARY MONTREAL

SMALL TOOLS

MILLING CUTTERS

In High Speed or Carbon Steel



Punch Dies

Plain Side Convex
Concave Angular
and
Special Forms

Special Inserted
Blade Cutters

Our tools are manufactured from the best materials procurable, by skilled workmen with most modern equipment.

QUALITY GUARANTEED

Prompt service is assured at our nearest store, where P. & W. Small Tools are stocked for immediate delivery.

Write for Our No. 9 Catalogue

PRATT & WHITNEY CO.
of Canada, Limited
Dundas - Ontario

MONTREAL	TORONTO	WINNIPEG	VANCOUVER
723 Drummond Bldg.	1002 C.P.R. Bldg.	1205 McArthur Bldg.	B.C. Equipment Co.

BERTRAM MACHINE TOOLS

For Structural, Bridge and Shipbuilding Plants

Modern in design and built for heavy service, our line embraces a varied equipment of Punches, Shears, Bending and Straightening Rolls, Coping Machines, Rotary and Plate Planers.

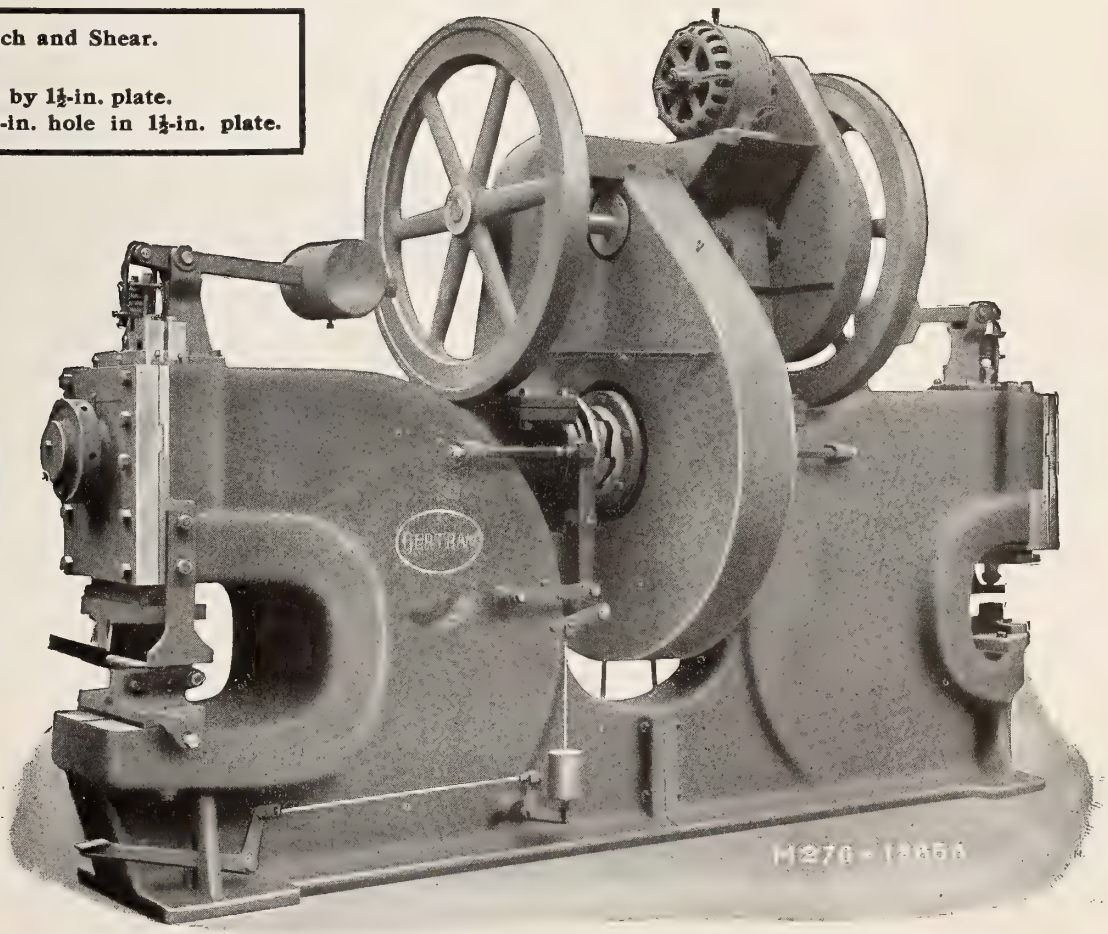
The assistance and advice of our engineers are yours for the asking.

THE JOHN BERTRAM & SONS CO., Limited

Dundas - Ontario - Canada

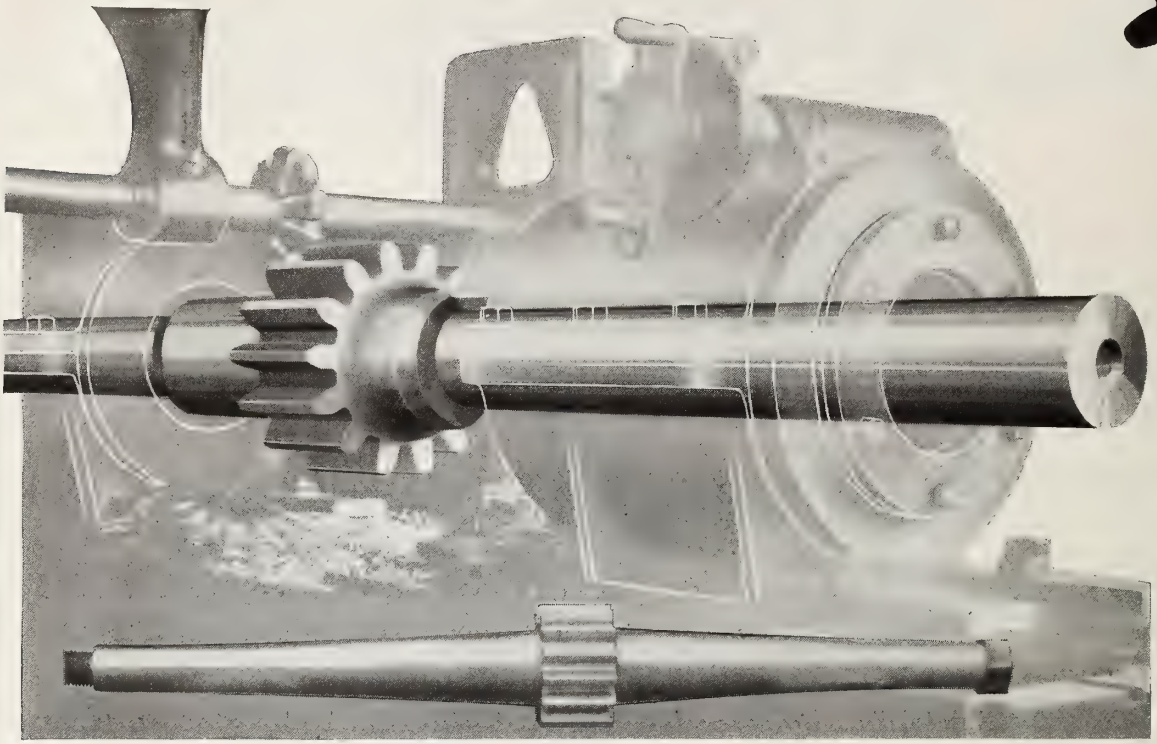
MONTREAL	TORONTO	WINNIPEG	VANCOUVER
723 Drummond Bldg.	1002 C.P.R. Bldg.	1205 McArthur Bldg.	609 Bank of Ottawa Bldg.

Double Punch and Shear.
Capacity—
Shears 8-in. by 1½-in. plate.
Punches 2½-in. hole in 1½-in. plate.



Cutting 2-Pitch Pinion, Forged Solid on Shaft

CUT GEARS



Get our Quotations

Hamilton Gear & Machine Co. Van Horne Street TORONTO

MADE IN PREMIER CANADA GALVANIZED SHEETS

NOT ONLY "MADE-IN-CANADA"

But the various Raw Materials ARE *Canadian Made* INCLUDING

Steel, Spelter, Acids, Chemicals, Supplies and (of course) Labor

Why not distinctly specify "Premier"— the sheet of unequalled quality?

DOMINION SHEET METAL CORPORATION, Limited
HAMILTON, CANADA

MEADOWS SERVICE

A Fine Canadian Industry

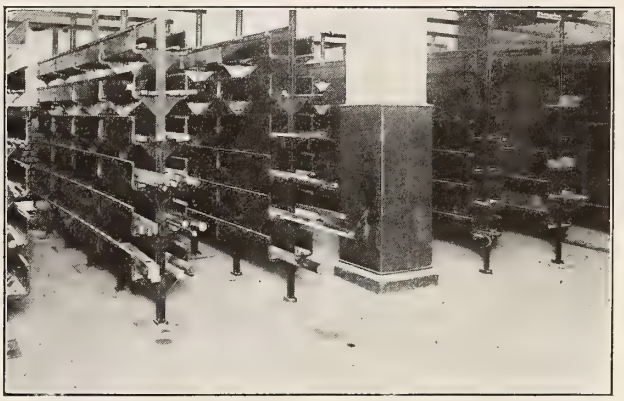
whose plant has been brought to a high state of efficiency by using our service. We refer to Messrs. A. Schrader's Sons Inc., Toronto. Every automobile owner is directly benefited by Schrader efficiency reflected in their absolutely dependable tire valves and pressure gauges

Mr. Cole, the General Manager, once said to us, "There is one thing about the Geo. B. Meadows Company, when we want them, they are on the job, and our work is put through in the way we wish and when we want it. We have never had such prompt service as you give, either here in Canada or in the United States"

We are ready to ao the same for you

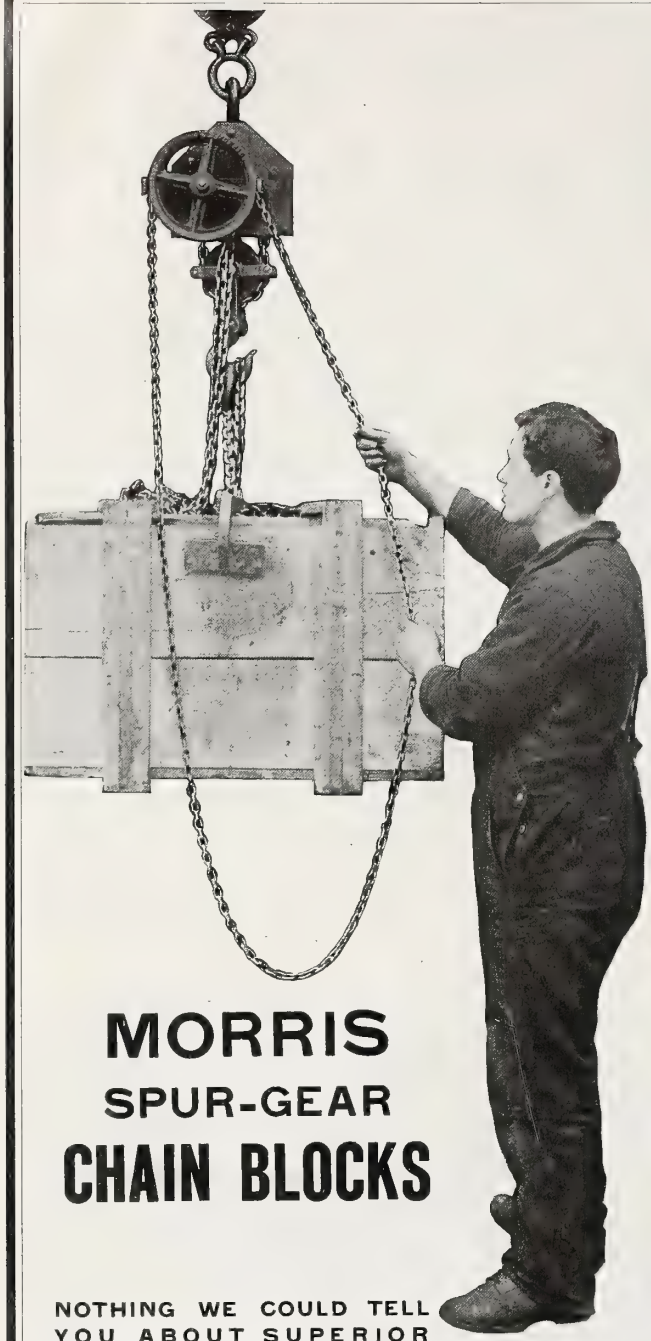


This illustration shows Steel Assembling Tables and Steel Chairs manufactured in our factory for the Schrader Plant



The Racks pictured above had to be carefully designed so as to stand the eccentric loads. Designing and planning is part of our service

THE GEO. B. MEADOWS
TORONTO WIRE, IRON & BRASS WORKS CO
LIMITED
TORONTO ——— CANADA



MORRIS
SPUR-GEAR
CHAIN BLOCKS

NOTHING WE COULD TELL YOU ABOUT SUPERIOR QUALITIES OF THESE BLOCKS COULD BE HALF SO CONVINCING AS AN ACTUAL TEST IN YOUR OWN SHOP UNDER ORDINARY WORKING CONDITIONS.

MADE IN CAPACITIES FROM ⅛ TON TO 5 TONS. PORTABLE AND TRAVELING TYPES.

WE ALSO BUILD THE WORM AND TRIPLE GEAR TYPES FOR LARGER CAPACITIES. ASK US ABOUT THEM.

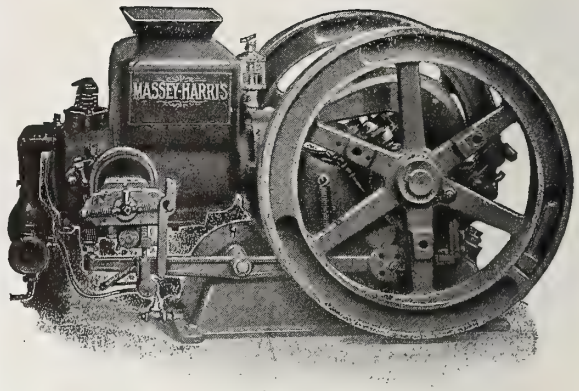
The Herbert Morris Crane & Hoist Company, Limited

NIAGARA FALLS ONTARIO

TORONTO OFFICE, Kent Building

MONTREAL OFFICE 296 St. James St

Massey-Harris



A Convenient and Reliable Source of Power

THE MASSEY-HARRIS ENGINE is Famous for its Reliability, and Economy of Operation. It can be depended on the year round in any kind of weather, and the Cost of Maintenance is very low—it is easy on the Gasoline.

The CARBURETOR on the Massey-Harris is Simple and Efficient. The air enters at great velocity and entirely surrounds the Gasoline, breaking it up into an extremely fine mist or spray, thoroughly mixed with the air.

The mixture, therefore, is a mechanical one, and does not depend on vaporising the Gasoline. As a result a perfect mixture can be obtained in cold weather, and the Engine started without difficulty.

Efficient Service—Every Massey-Harris-Agency is a Service Station

MASSEY-HARRIS CO., Limited

Head Offices—Toronto, Canada

Canadian Branches at

Montreal Moncton Winnipeg Regina Saskatoon
Swift Current Yorkton Calgary Edmonton

AGENCIES EVERYWHERE

HYDRAULIC and POWER PRESSES

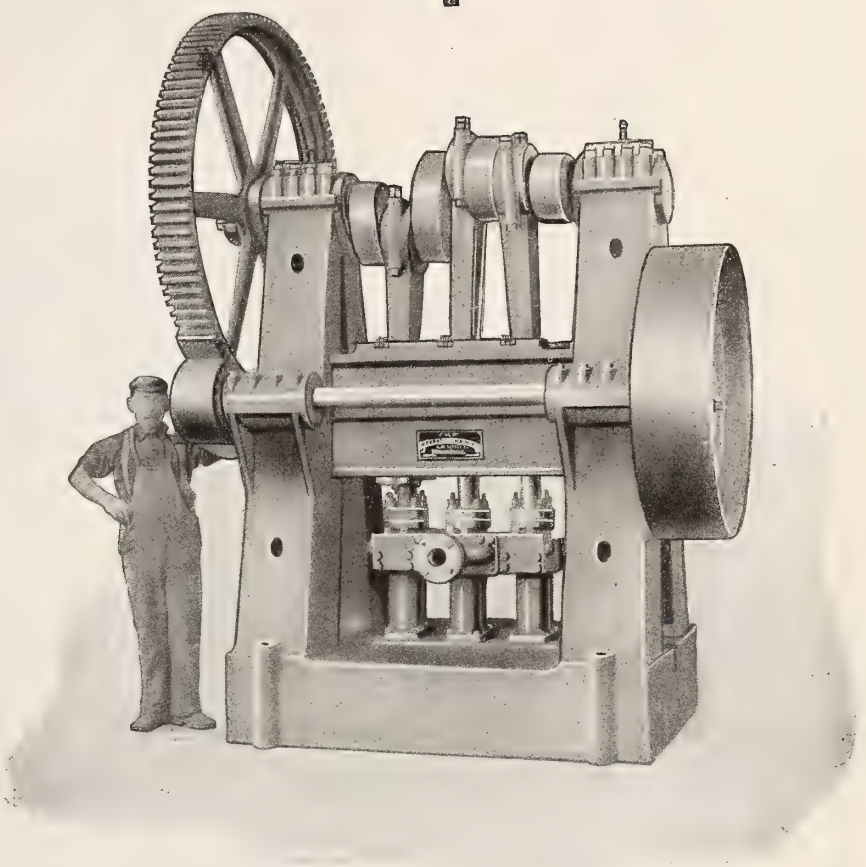
PUMPS and ACCUMULATORS

PIPING, FITTING AND VALVES

BUILT TO MEET SPECIAL
REQUIREMENTS OF
MANUFACTURERS OF

PULP AND PAPER
LEATHER BELTING
PACKING HOUSES
VENEER
FORGINGS
MACHINE SHOPS
TANNERIES
POWDER
ETC., ETC.

Also—
SPECIAL SHELL
PRESSES AND
EQUIPMENTS



STANDARD HYDRAULIC PRESSURE PUMP

If you, as a manufacturer of products requiring pressing, or of some product in which pressing is an important factor, have need of a better pressing or special equipment than you have heretofore been unable to secure, write us fully as to your requirements.

New Catalog "B" upon request.

The Hydraulic Machinery Co.

LIMITED

MONTREAL CANADA

"AT YOUR SERVICE"

SHEET METAL STAMPINGS
PRESSED STEEL PARTS

You can replace castings in many places with Sheet Metal Parts, and thereby make

A BIG SAVING

Lighting Fixtures Stamped and Spun Brass Goods
Screw Machine Products

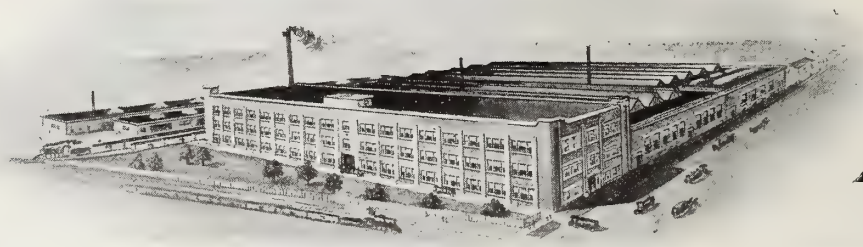
SECURE OUR ADVICE AND ESTIMATES

Write for our latest catalogues, advising in what line you are interested.

W. H. BANFIELD & SONS, Limited

Head Office and Works:
370-386 Pape Avenue, Toronto

Showrooms:
80 King Street West, TORONTO





It Saves Your Money

But that's only one of its recommendations.

The JONES
Underfeed Stoker

is neither novel nor an experiment but the result of a quarter century's patient study and experience. Its remarkable simplicity has been obtained by omitting every frill and fad and including only simple necessities. There is a total absence of moving parts exposed to the fire.

In its design is embodied everything that goes for the economical and complete burning of coal under great fluctuations of load and widely varying fuel conditions. Savings of 15% to 25%, when burning any grade of fuel are the usual results from a Jones Underfeed Stoker installation.

Write for Illustrated Booklet

Jones Underfeed Stoker Co.
Limited
37-41 Britain Street, Toronto.

Where Jenkins Bros.' Valves are Made

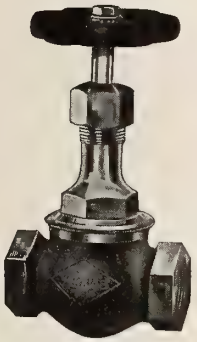


Fig. 106



Factory and Head Office of
JENKINS BROS. LIMITED
Montreal, Canada

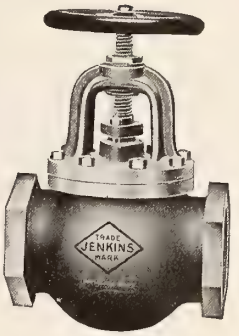


Fig. 141

Where plants are scientifically operated, valve value is measured by service rendered, and by yearly ***lack*** of up-keep cost.

If valves break down before other items of equipment, an injustice is done to the entire plant; because valves should last as long as good plant equipment. Good valves do.

Consider—40 per cent. of the Nation's Coal Pile is lost each year by power plants, from their coal investment through poor steam transmission, and from unnecessary labor costs.

JENKINS BROS.' VALVES will keep your plant running and save you money.

A Protection to the User

A steam user who installs Jenkins Bros.' Valves, can do so with the knowledge that he is protected by the maker against defects and imperfections. Our dealers have instructions to replace, without question, any imperfect or defective Jenkins Bros.' Valve returned to them.

Catalogue No. 8 sent free on request.

Head Office and Works
103 St. Remi St.
Montreal - Canada

JENKINS BROS.
Limited
Agencies in All the Principal Countries of the World

European Branch:
6 Great Queen St.
Kingsway
London, W.C. 2, Eng.



ALGOMA

STRUCTURAL STEEL – MERCHANT BARS

Blooms, Billets and Slabs
Concrete Reinforcing Bars
Shafting – Pulleys – Hangers
Iron, Brass, Bronze and Steel Castings

Sulphate of Ammonia Nitre Cake
Sulphuric Acid

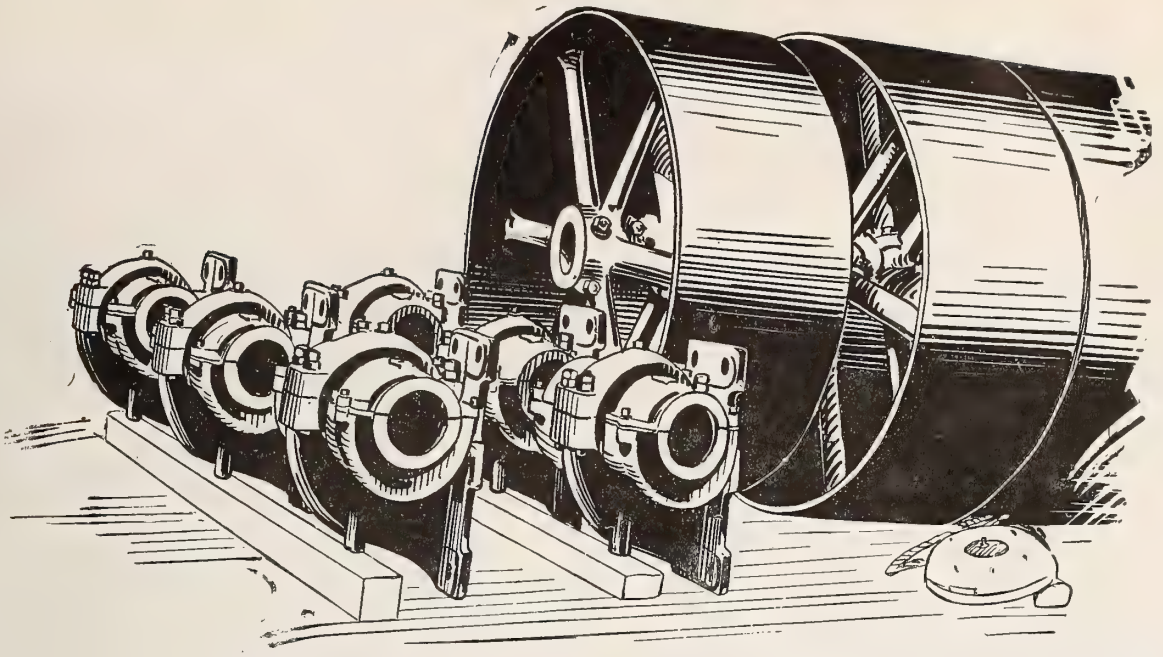
STEEL RAILS – Open Hearth Quality
Splice Bars Steel Tie Plates
Light Rails – 12 lbs. to 45 lbs.

PIG IRON

Basic Foundry Bessemer Spiegel

ALGOMA STEEL CORPORATION
LIMITED

SAULT STE. MARIE - - - - ONTARIO



Reproductions from actual photograph, showing battery of 12-ft. by 36-in. face cast iron pulleys, awaiting shipment.

BIG PULLEYS

We have one of the few shops in the country capable of handling jobs of this size.

We like to handle big jobs. There is satisfaction, enjoyed as much by men in the shops as by the executive, in putting them through in A No. 1 style, on schedule time.

That's another thing we're proud of—time. When we promise delivery, we make good.

How about getting us to work with you on your next big job?

DODGE

Manufacturing Co., Limited

TORONTO - - ONTARIO

Also 770 St. Paul Street West, Haymarket Square, Montreal.

CANADA'S LARGEST BUILDERS OF TRANSMISSION MACHINERY

THE CIRCO PAGE



These Men are Saving 60% of the Time for Hand Ramming, and Doing Better Work

Our "Crown" Sand-Rammer Bulletin is ready to be mailed to you—ask for it.

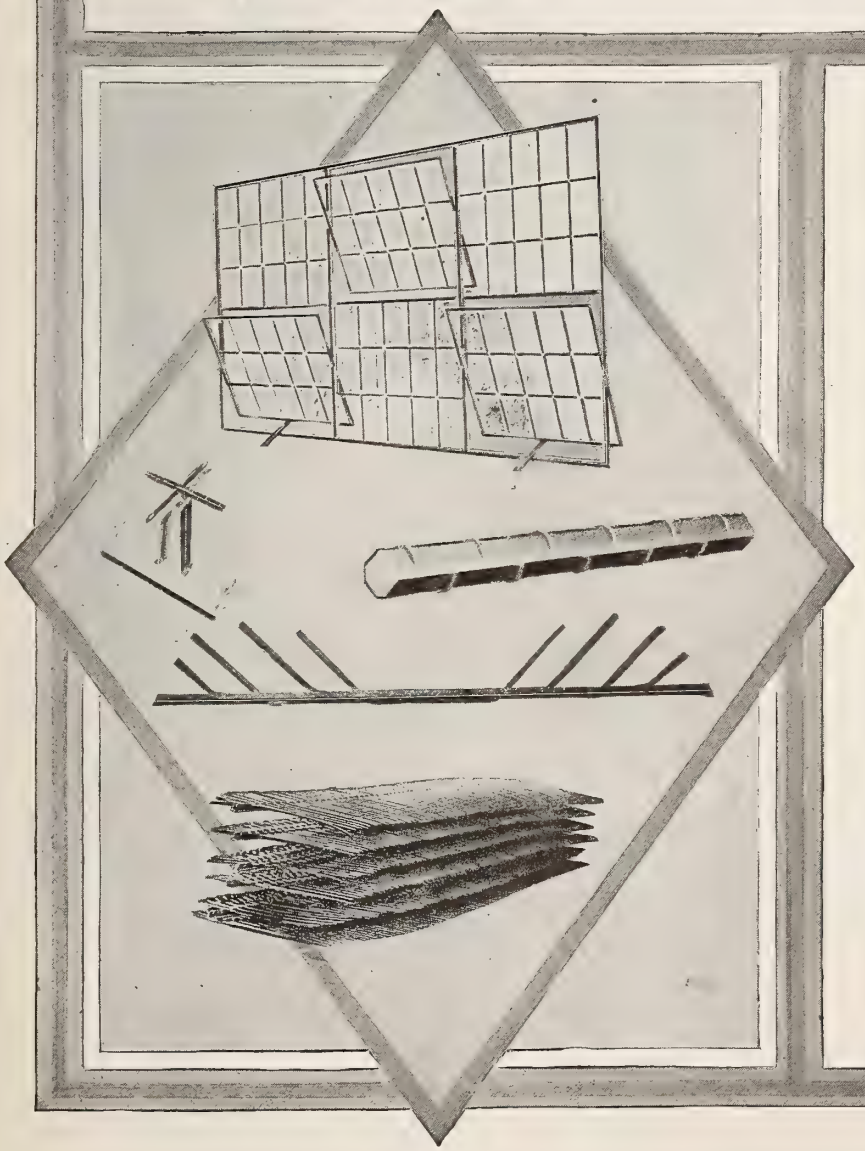
Canadian Ingersoll-Rand Company Limited

Sydney Sherbrooke Montreal Toronto Cobalt Winnipeg Nelson Vancouver



The Maxwell Motor Company, Windsor, Ontario

TRUSSED Bars used in beams, ensuring maximum strength and minimum labor cost. Rib Bars used in beams, columns and slabs. Column Hooping used in columns. Flat Slab Chairs used for ensuring accurate spacing of reinforcement in the flat slab construction. Daylighted with Truscon Steel Sash, providing perfect ventilation, fireproofness and permanency.



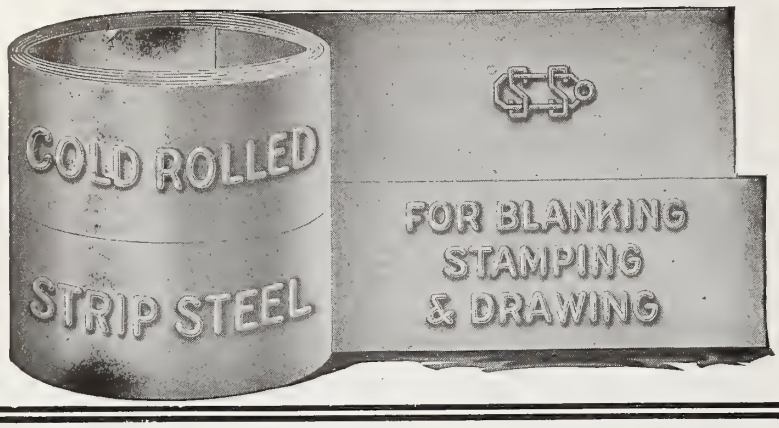
Approved !

THE fact that the automobile industry appreciates and approves the most modern type of factory building is vividly shown in the above birdseye view of the Maxwell Motor Company's plant at Windsor, Ontario. The buildings already erected are of fireproof construction, this being obtained by the use of reinforced concrete, brick curtain walls and steel sash throughout. The large assembly building shown at the rear of the above view is built according to the latest Truscon System of Flat Slab Design, which permits of maximum carrying capacity for the floors with the minimum amount of reinforcing steel. The interior of the building is painted a flat white which reflects the light to such a degree that it is one of the best lighted factory buildings in the country.

Trussed Concrete Steel Co.
of Canada, Limited
Walkerville, Ontario

Montreal, Toronto, Winnipeg, Calgary, Vancouver
Warehouses at Toronto, Winnipeg and Calgary

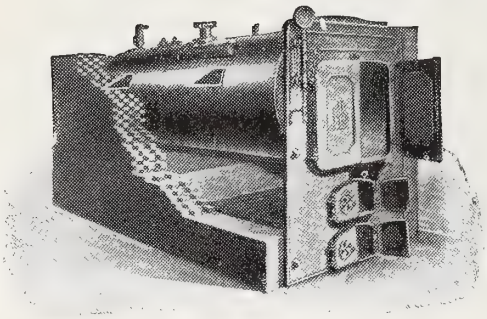
Distributing Agents Everywhere



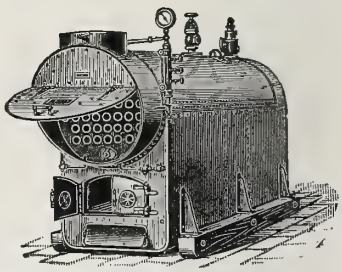
FINISHED BRIGHT
FOR
ELECTRO PLATING
DEEP DRAWING QUALITY
ACCURATE GAUGE AND WIDTH
WE SOLICIT YOUR ENQUIRIES

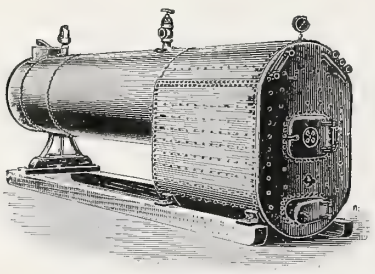
MANUFACTURED BY
STANLEY STEEL CO., LTD.
Hamilton, Canada

E. Leonard & Sons, Limited
LONDON . . ONTARIO



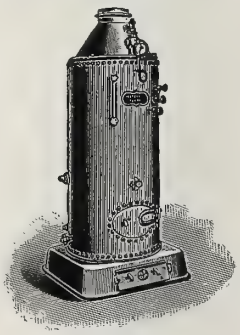
Manufacturers of
BOILERS
ENGINES
of all types and sizes



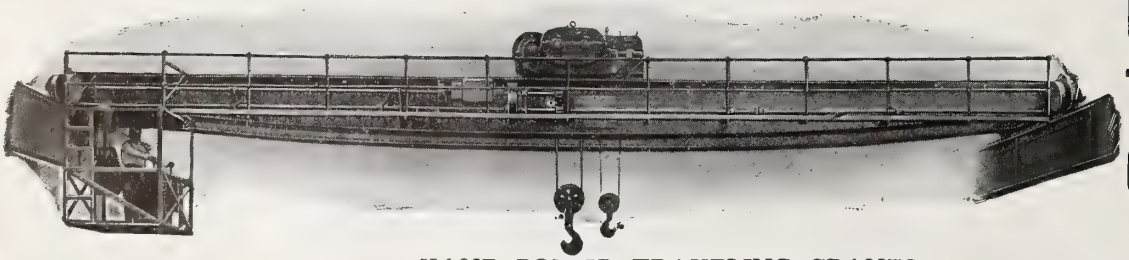


BRANCHES AT

1790 St. James Street, Montreal, P.Q.
Box 1315, Calgary, Alta.
62 Water Street, St. John, N.B.
567 Banning Street, Winnipeg, Man
Vancouver Machinery Depot,
Vancouver, B.C.



"CRANES MADE IN CANADA"

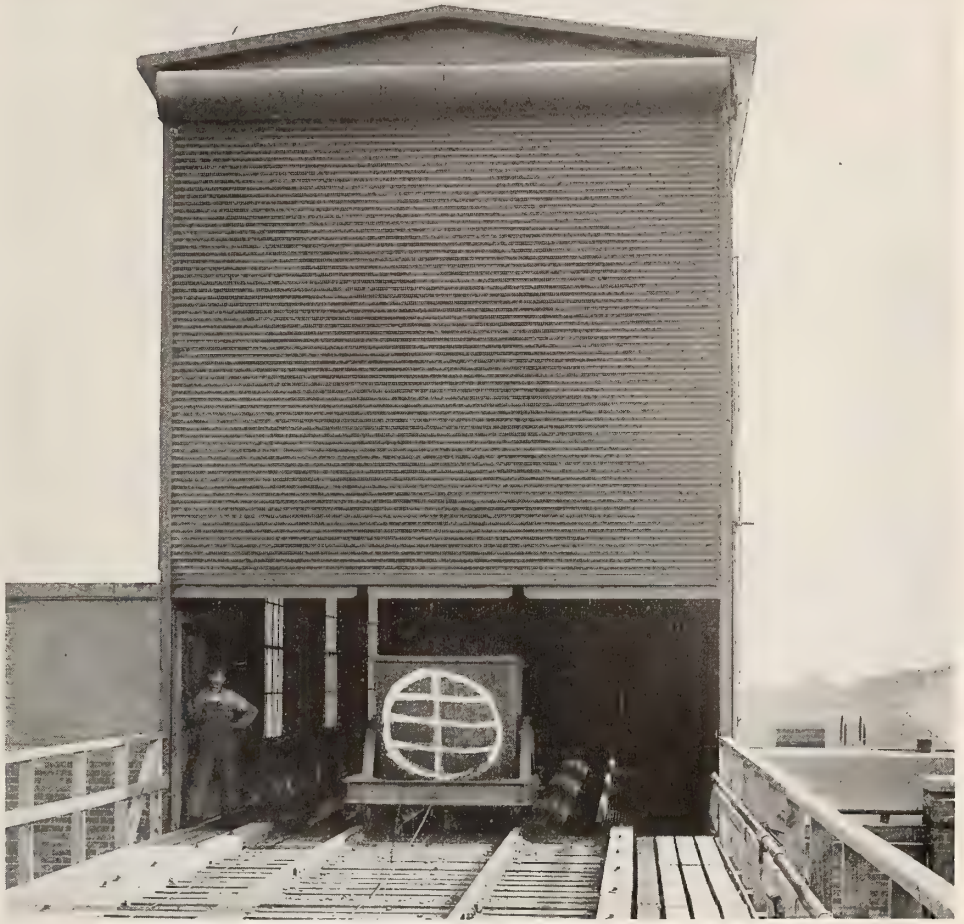


Electric Traveling Cranes

HAND POWER TRAVELING CRANES
ELECTRIC HOISTS, AIR HOISTS, FOUNDRY EQUIPMENT

Northern Crane Works, Limited - - - - Walkerville, Ontario

Ormsby



One of the 65 Rolling Steel Doors we supplied at the Canadian Kodak Company's Plant at Mount Dennis, Ontario

IT IS AN ALL-YEAR DOOR. You only open this door as far as you really need to open it, and they close if struck by fire themselves. Imagine, if you can on a wintry day with a 40-mile wind blowing what you would be up against with a pair of hinged doors, or sliding doors on this opening. This works with as little trouble then as on a perfect June day.

For economy of space, for real fire protection, for doors that give years of service, you cannot get anything to equal Ormsby's Rolling Steel Doors.

Write us for our new Booklet showing them installed under all conditions. You will be very much interested in it.

THE A. B. ORMSBY CO., LIMITED . . TORONTO

Associated with The Metal Shingle & Siding Company, Limited
Factories at Preston, Toronto, Montreal, Winnipeg, Saskatoon, Calgary

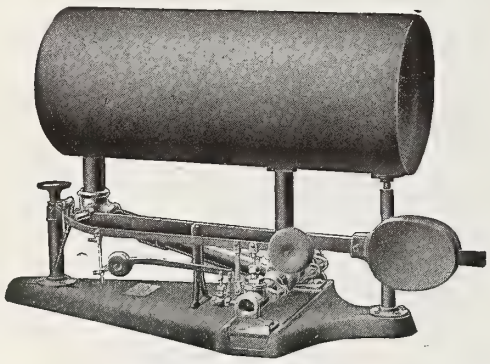
AGENTS:
Maritime Provinces : F. A. Gillis & Co., Halifax, N.S. British Columbia : A. T. Chambers, Vancouver

We Can Help You Solve the Coal Problem

A long list of manufacturers in Canada have used the

Morehead Back to Boiler SYSTEM

effectively to reduce their coal bills.



The Morehead Back-to-Boiler System is a system of steam coil drainage and boiler feeding that delivers the condensation from the steam coils back to the boiler only a few degrees cooler than the steam.

It saves you money, because it requires less fuel to heat the feed water, and because by removing the condensation from the heating coils it makes them more efficient.

Write for particulars affecting your case to-day. Our engineering service is at your disposal.

Canadian Morehead Manufacturing Co.

Woodstock Dept. "K" Ontario

STELLITE

Proper Procedure + STELLITE = Production and Economy

One of Toronto's new industries was presented by us with a Tool-Holder Bit of No. 3 ***STELLITE*** to try out on Cast Iron.

They made tests with the best brands of High Speed Steel as against ***STELLITE*** and found that they were able to run at double the speed and feed by using ***STELLITE.***

AS A MATTER OF FACT A TOOL BIT OF ⅜ inch square ***STELLITE*** HAS TURNED OFF 35,000 TIMES ITS OWN WEIGHT OF CAST IRON IN TEN DAYS.

As a consequence of their own tests they laid out their transmission to accommodate ***STELLITE*** and are now getting a much larger production than they had estimated.

We visited them recently and warned the Superintendent to save his shop-ends of ***STELLITE*** as they were worth $2.00 per pound to his firm.

This was like getting money from home as he had already decided to use ***STELLITE*** without this added incentive.

Ask for Demonstration

Deloro Smelting & Refining Co.
Limited

H.O. and WORKS: DELORO, ONT.

Toronto: 200 King St. W.

Montreal: 315 Craig St. W.

Dependable and Efficient Power Equipment

Land

Horizontal and Vertical Steam Engines

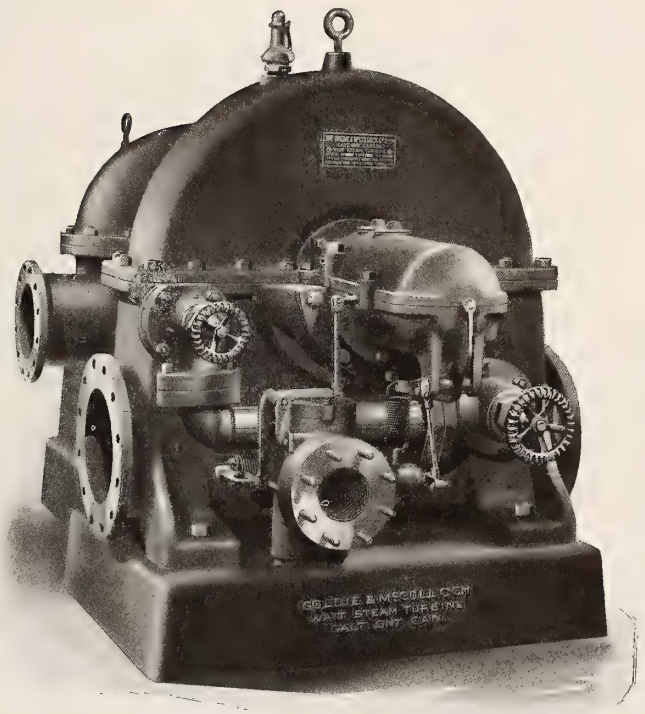
Steam Turbines

Return Tubular and Water Tube Boilers

Heaters

Centrifugal and Reciprocating Pumps and Condensers

Transmission Appliances



Marine

Compound and Triple Expansion Marine Engines

Ships' Lighting Sets

Vertical Bilge and Ballast and Boiler Feed Pumps

"Contraflo" Condensers Heaters Filter and Drain Tanks

Morison's Radial Evaporators

Ships' Side Lights etc.

Illustration shows a Goldie & McCulloch "Wait" Steam Turbine direct connected to centrifugal pump.

We also build SAFES, VAULTS AND VAULT DOORS, Deposit Boxes, etc. G. & McC. Co. Safes have never failed to preserve their contents in all of Canada's great fires for the last forty years.

Any of our catalogues and the advice of our Engineering Department are yours for the asking.

THE GOLDIE & McCULLOCH CO., Limited

Head Office and Works: GALT, ONTARIO, CANADA

TORONTO OFFICE: Suite 1101-2 Bank of Hamilton Bldg.

WESTERN BRANCH: 248 McDermott Ave. Winnipeg, Man.

QUEBEC AGENTS: Ross & Greig 400 St. James St., Montreal, Que.

BRITISH COLUMBIA AGENTS: Robt. Hamilton & Co. Vancouver, B.C.

B.C. Safe Agent: C. L. FORD, 569 Richards St. Vancouver, B.C.

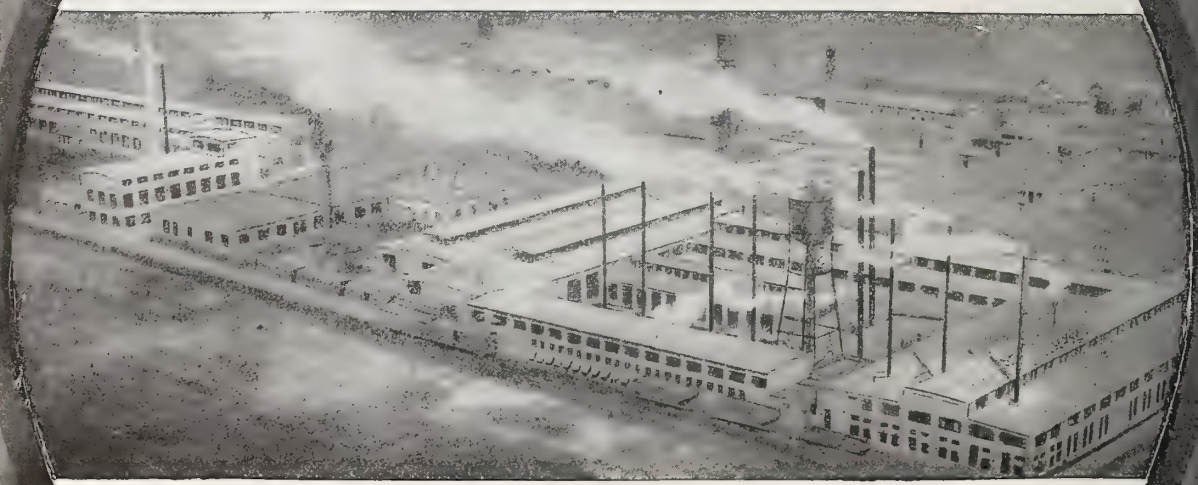
Maritime Safe Agent: E. L. STAILING, 16 Roy Bldg., Barrington St. Halifax, N.S.



BROWN'S

Beaver Brand Metals

Copper, Brass, Bronze, Canada Silver, and Gilding Metal in sheets, rolls, plates and rods. Naval Bronze, Yellow Metal and Muntz Metal in sheets and rods for shipbuilding requirements. Specify Beaver Brass Rod for drilling and free cutting. Extruded shapes.



Guaranteed Ingot Metals—Yellow, Red and Composition Ingots.
We are Purchasers of Copper Bearing Material.

Link up with Beaver Brand Products—you'll like the quality, price and service.

Brown's Copper & Brass Rolling Mills, Limited

New Toronto, Ont., Can.

COPPER & BRASS
BROWN'S
QUALITY
ROLLING MILLS

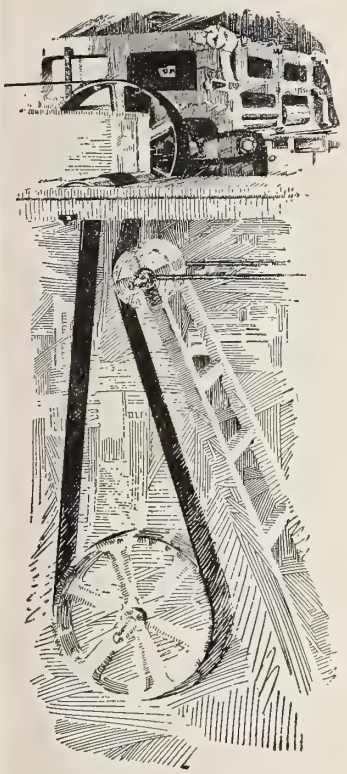
On Planers—
Goodyear Extra Power Belting

The final test of belt efficiency is found on both large and small high-speed planers in woodworking plants.

Planer drives are of two types, the cylinder drive and the side-head drive.

Feed drives are hard to belt, as they are belted top and bottom—each belt must also run over another pulley, which allows the roller to turn and move the board ahead, as it is planed.

The side-head drive is found the most difficult to belt, because of the maintenance of exceptional high speed, the difficulty of installation and the necessity of stretch elimination. Side-head belts operate by two-quarter turns on the under side from a vertical shaft to a horizontal pulley. To make these turns, two idlers are necessary, running the belt over four pulleys—each side-belt in contact with two pulleys.



It is with real satisfaction that we receive testimonials of the exceptional service by Goodyear Extra Power Belting on work of this kind.

The Crow's Nest Lumber Company, of Wardner, B.C., operate a Berlin type side-head matcher and resaw equipped with a 5-inch, 5-ply Goodyear Extra Power—it has a record of eleven months continuous service.

Mr. Laird, Superintendent, says: "No trouble whatever has been experienced. Extra Power has been entirely satisfactory, giving a greater service than had ever been secured in the mill."

Mr. Laird adds that, while this particular record is outstanding, Extra Power has given splendid results through the mill on all types of machine, counter-shaft and main drives.

Belt men trained by Goodyear are at the service of any industrial in Canada. Discussing your problems with Goodyear places you under no obligation. Phone, wire or write the nearest branch.

The Goodyear Tire & Rubber Co. of Canada, Limited

Branches:
Halifax, St. John, Quebec, Montreal, Ottawa, Toronto, Hamilton, London Winnipeg, Regina, Calgary, Edmonton, Vancouver

Service Stocks in Smaller Cities

GOODYEAR
MADE IN CANADA

EXTRA POWER BELTING



MORROW

Screws are made only in Ingersoll, but are sold by all Dealers who sell the best for their customers.

Look for the black box with the green label.

MORROW Screws are always the same and always good. "It's the Finishing Die that does it."

INSIST ON MORROW PRODUCT

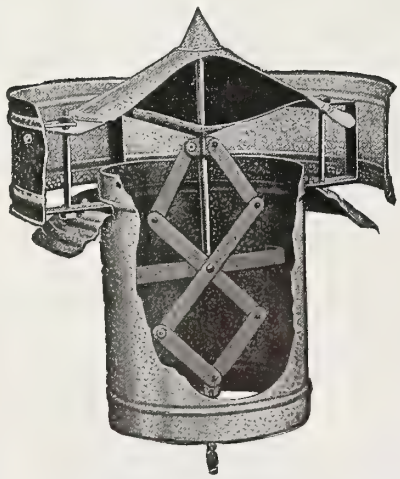
Twist Drills, Reamers, Nuts, Files

John Morrow Screw & Nut Company, Limited

INGERSOLL - CANADA

All good jobbers carry Morrow products

PEDLAR'S "PERFECT" VENTILATORS

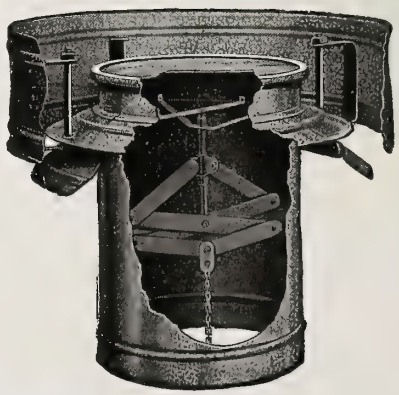


Automatic Exhaust Type

They have no revolving parts and require no power. Variable ventilating capacity is obtained by means of a simple chain device. A fusible link automatically closes them in case of fire.

Pedlar's "Perfect" Ventilators are adaptable to all building conditions. They are made in galvanized iron, Toncan Metal, or Copper, and are absolutely weather-proof. And as there is nothing in their construction to wear, break or decay they cannot get out of order.

Made in 13 sizes from 8 to 72 inches diameter, metal or glass top. Write for Ventilator Booklet I.C.



The Pedlar People Limited

Established 1861

Executive Offices and Factories:
OSHAWA, ONT:

Branches:
Montreal, Quebec, Ottawa, Toronto, Winnipeg, Vancouver

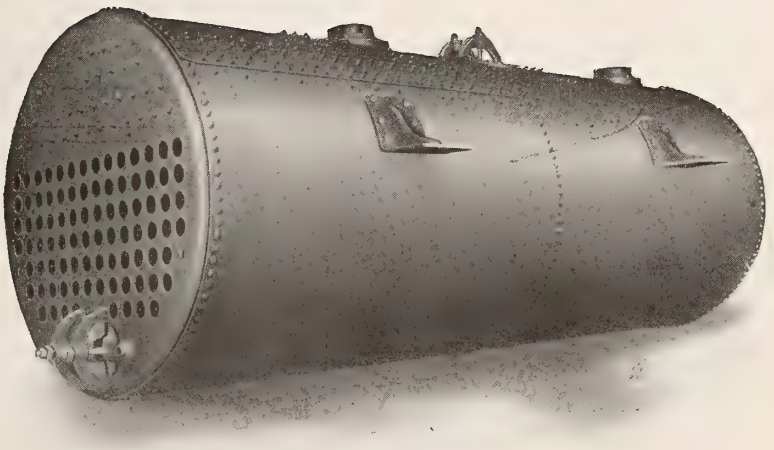
THE JOHN INGLIS COMPANY
LIMITED

ENGINEERS and BOILERMAKERS

"INGLIS'" PRODUCTS ARE "MADE IN CANADA"

ENGINES
and
BOILERS
TANKS
PENSTOCKS

HEAVY PLATE WORK
and
SPECIAL MACHINERY



CANADIAN MANUFACTURERS
of
ERIE CITY WATER TUBE BOILERS

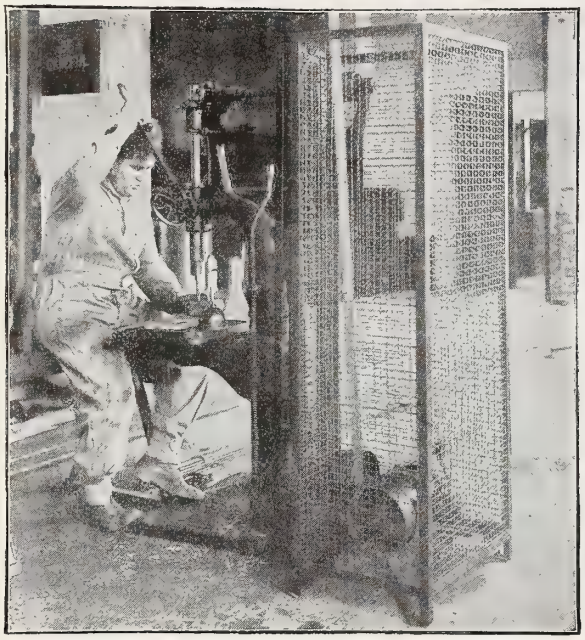
Write us for Prices and Specifications

14 Strachan Avenue - Toronto, Canada

Representatives in Eastern Canada
JAS. W. PYKE & CO. LTD.
232 St. James Street
MONTREAL

Ottawa Representative
J. W. ANDERSON
7 Bank Street Chambers

Oxy-Acetylene Welding and Cutting



Used Wherever Machinery Is In Constant Daily Use

In nearly every line of metal manufacture, from the making of delicate jewelry to massive locomotives, the Prest-O-Lite Process of Oxy-Acetylene Welding has firmly established itself. Where two pieces of metal are to be joined, it is supplanting the bolt, rivet and threaded joint in hundreds of factories and repair shops.

Metal lockers, as shown in the illustration and metal equipment of all kinds, can be produced at less cost by this process.

Wherever metal or machinery is produced, moulded, built, shaped, or USED, there a Prest-O-Lite outfit will be found of inestimable value.

Prest-O-Lite PROCESS

employs both gases (acetylene and oxygen) in portable cylinders. Prest-O-Lite Dissolved Acetylene is backed by Prest-O-Lite Service, which insures prompt exchange of full cylinders for empty ones; provides dry, purified gas, insuring better welds, quicker work and lower operating cost.

Apparatus consists of an equal pressure blow pipe, automatic regulators and gauges, and all necessary equipment. Adaptable for oxy-acetylene cutting by the addition of special cutting blow pipe.

Thorough instructions are furnished free to every user of Prest-O-Lite Dissolved Acetylene. Any average workman who understands metals can learn the welding process quickly and easily.

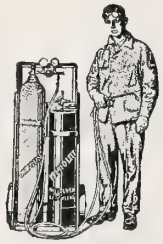
We will gladly send illustrated literature and interesting data showing actual instances of savings made by others. It may suggest valuable ideas to you. Write for it.

Address Department C-104.

Prest-O-Lite Company of Canada, Limited

Prest-O-Lite Building
Cor. Elm St. and Centre Avenue
TORONTO

PLANTS AT
Toronto, Ont. Shawinigan Falls, P.Q.
Merritton, Ont. St. Boniface, Man.



World's Largest Makers of Dissolved Acetylene



Concrete dust ruins machinery, motors, etc. Protect your machinery by painting your concrete floors with

RAMSAY'S
Gloss Finish
CONCRETE PAINT

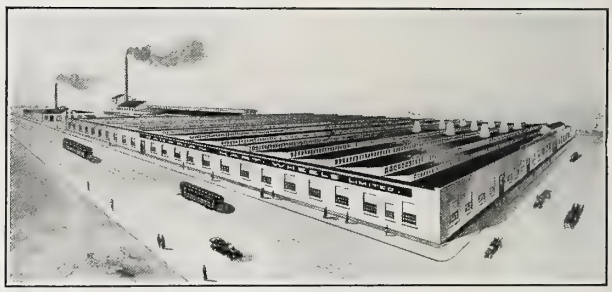
WRITE US

A. RAMSAY & SON COMPANY
3 *Makers of Paints and Varnishes since 1842*
TORONTO MONTREAL VANCOUVER

Canadian Hart Wheels

CUT FASTER LAST LONGER

Than any other wheels on the market



OUR NEW MODERN PLANT

Tell us the service you want performed and we will supply you with an abrasive wheel that will save you time, money and worry.

Send for one of our catalogues and tell us your troubles. We do the rest.

CANADIAN HART WHEELS LIMITED
HAMILTON - - ONTARIO



Now *Staple* Articles of Trade

THE parts of a Ford car—*every* part—can be bought *anywhere* in Canada.

They need not be "ordered from the factory."

—nor from a Ford Branch.

—nor even from one of the 750 Ford dealers.

They can be delivered "on the spot" by over 2000 garage and repair men.

Although highly specialized pieces of engineering and machining, Ford parts have become *staple articles of merchandise*. They are as easy to obtain as a hatchet or a saw.

This is a most unusual service to the owner of a car.

Its value is incalculable.

The Ford car need never be "tied up" while repair parts are being "brought on from the factory."

There need be no annoying delays while touring because Ford Service Stations are located everywhere.

The owner of a Ford (barring serious breakdown through accident) may enjoy uninterrupted use of his car.

Caution to Ford Owners

Never allow "spurious" or imitation parts to be used in repairing your Ford. Your repair man—if he is earnest in his desire to serve you well—can get genuine Ford parts and sell them to you at a reasonable profit.

You need never accept "spurious" repair parts. In any locality, in any emergency, there is sure to be close at hand, a Ford Service Station.

Demand genuine Ford parts. Be firm.

Keep your Ford running at full Ford efficiency

FORD MOTOR COMPANY OF CANADA, LIMITED, FORD, ONT.

DEMAND
Genuine Ford Parts

Bond Hangers

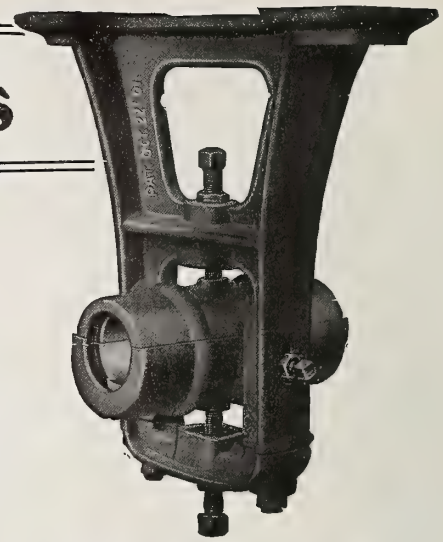
Economical—Dependable

Oil economy with Bond Hangers is proverbial—for the efficient ring-oiling device suppiies a constant flow of oil to the surface of the shaft with every revolution.

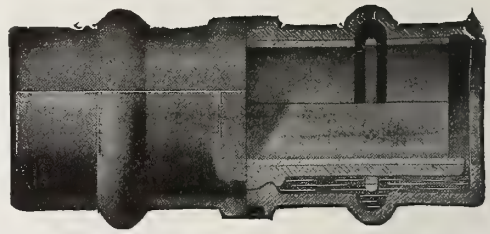
Oil cannot leak out the ends of the bearings because of the oil ducts that collect all superfluous oil and return it to the reservoir—preventing waste.

Bearings that are babbitted and then reamed, the ease with which misalignment can be corrected with the universal adjustment, and other Bond Features assure long life and dependability.

The Bond Hanger Book fully describes the economical and dependable features.



Ring Oiling



Bond Engineering Works Limited

Sole Makers

Bond Double-Sure Transmission

TORONTO ONTARIO

Nova Scotia Steel & Coal Co.
LIMITED

PLATES

1/8 to 5/8" thick up to 48" wide, weighing up to 1060 lbs. each

Fluid Compressed Steel Forgings

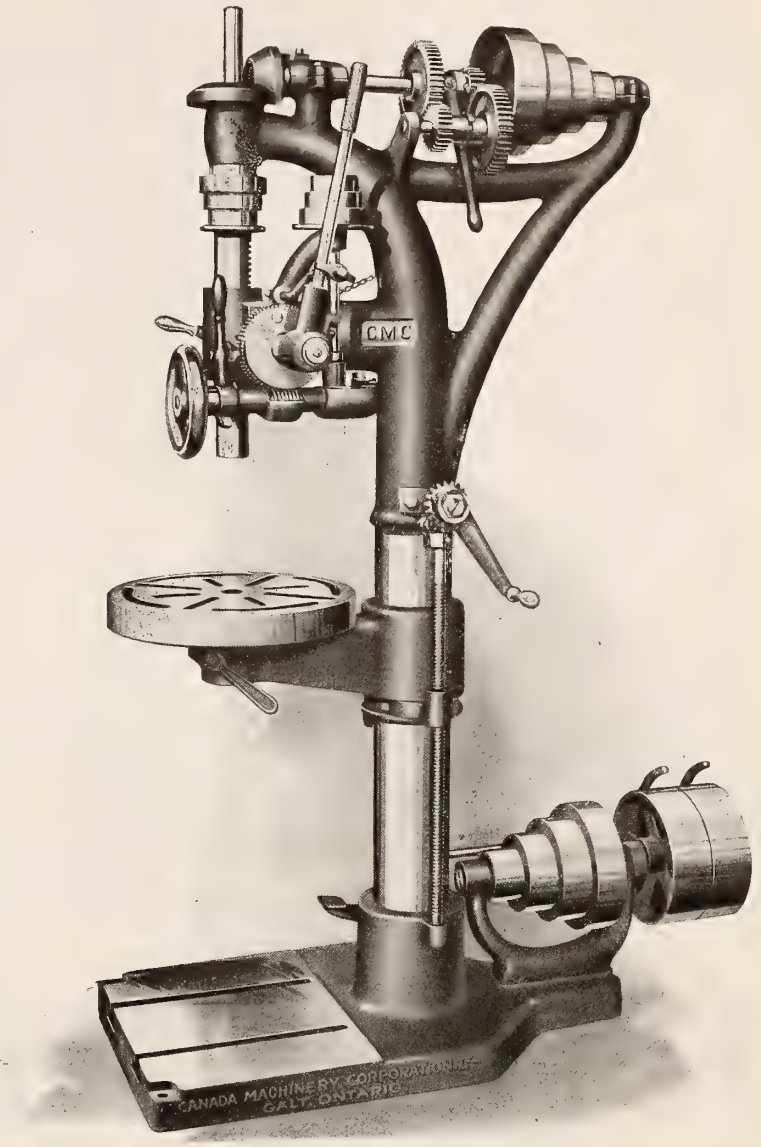
We manufacture Merchant Bars, Rounds, Flats, Squares, Ovals, Half Ovals, Tires, Sleigh Shoes, Plain or Twisted Concrete Bars, Agricultural Sections, Cold Drawn Shafting, Machinery Steel, Angle Bar Fish Plates, Track Spikes and Bolts.

General Sales Office:
WINDSOR HOTEL, MONTREAL

Head Office:
NEW GLASGOW, N.S.

TRADE C.M.C. MARK

20" DRILL
WITH
BACK GEARS
AND
POWER FEED



For prompt shipment

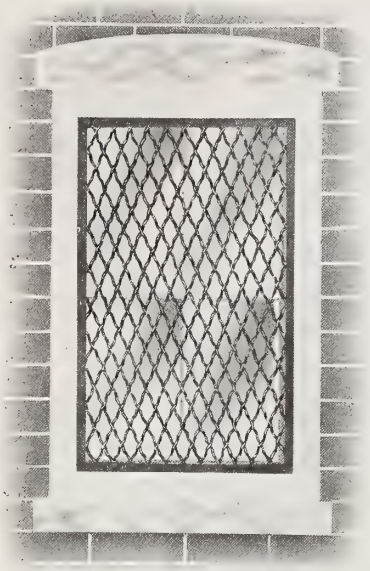
This drill is designed and constructed with the same thoroughness as the larger and more complicated C. M. C. machine tools and will render the most effective service. Besides having a wheel and lever feed it has also a cone-driven power feed arranged with an automatic stop. The machine is regularly equipped with back gears, but this feature may be omitted when not desired by customer.

Our special bulletin describes the machine in detail. We would be pleased to mail you one.

It pays to buy a good machine when you are in the market.

CANADA MACHINERY CORPORATION, LIMITED, GALT, ONTARIO

Toronto Office and Warerooms: Brock Avenue Subway



WINDOW GUARDS

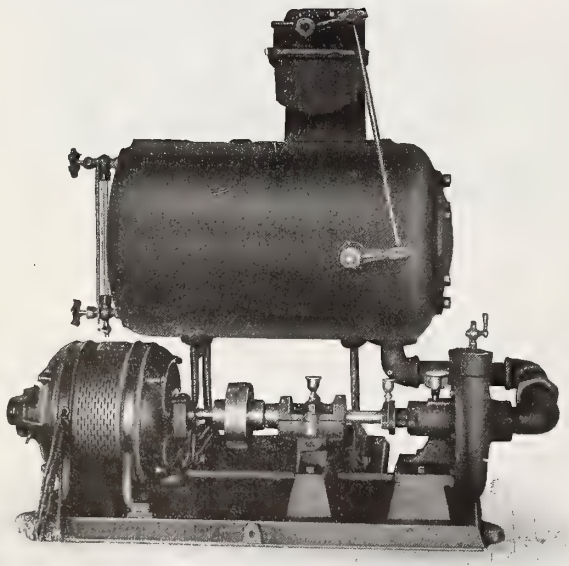
For Stores, Warehouses, Factory Basement, etc. and all kinds of

WIRE WORK

Manufactured by

THE B. GREENING WIRE CO., Limited

Hamilton, Ont. *Montreal, Que.*



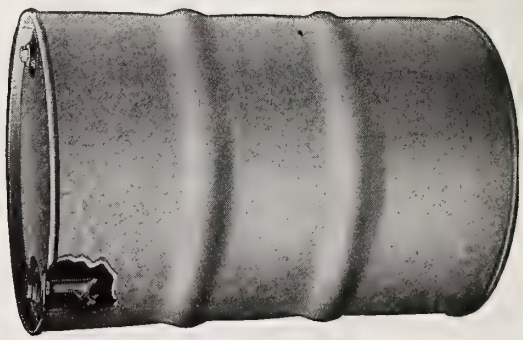
WE ARE SPECIALISTS IN

Pumping Machinery

AND

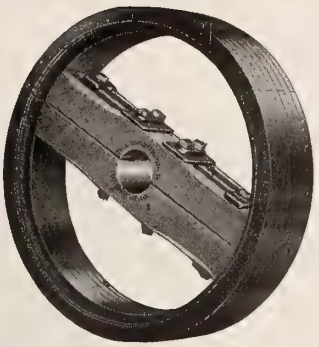
STEEL BARRELS

Let us know your requirements in these lines, and we will offer an equipment which is suitable for your particular needs.



The Smart-Turner Machine Co. Limited

HAMILTON CANADA



When it comes to a question of Value We Lead

The quality of "Bernard" Wood Split Pulleys is absolutely guaranteed, and when you specify this pulley, you get as good pulley as can possibly be made.

You buy it at lower price consistent with quality, and you are protected at all times by an organization that is back of the factory and its products.

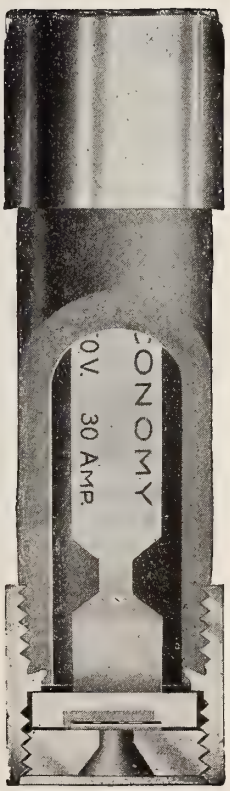
GIVE THEM A TRIAL

The A. Bernard Industrial Co

Manufacturers of High-Grade Power Transmission Appliances

Office and Works: Fortierville, Que., Can





ECONOMY renewable FUSES

appeal strongly to users who place safety above every other consideration and to those who take pains to eliminate all unnecessary expense.

ECONOMY FUSES afford maximum protection to electrical circuits because they are correctly designed and accurately rated.

They cut annual fuse maintenance costs 80% because an inexpensive "Drop Out" Renewal Link restores a blown ECONOMY FUSE to its original efficiency.

The ECONOMY was the ***first*** successful renewable fuse—and is the ***most*** successful to-day, both in service and in value.

Write for catalogue 40

ECONOMY FUSE & MFG. CO.
OF CANADA, LTD.

UNITY BUILDING - - MONTREAL

Manufacturers in Canada of S. & C. High Potential Fuses— to 150,000 volts

The Wm. Kennedy & Sons, Limited

Owen Sound, Ontario

Headquarters for Propeller Wheels, Ship Windlasses, Capstans, Winches, Steering Engines, Mill Gearing, Turbine Water Wheels, etc.

Iron and Steel Castings

GIVE CANADIAN SHOPS THE PREFERENCE.

JARDINE
Canadian Giant Power Hammer



There is nothing like it for rapid and accurate production of light to medium forgings.

No. 25 forges up to 2" stock.
1½ Horse Power drives it.
Weight 825 lbs.
Price $171.00.

No. 50 forges up to 2½" stock.
2½ Horse Power required for heavy work.
Weight 1,750 lbs.
Price $275.50.

A. B. JARDINE & CO., Limited
HESPELER - ONTARIO

Introduce Steel Lockers as an INVESTMENT!



YOUR employees will appreciate the extra comfort, security, convenience and cleanliness of handsome Dennisteel lockers.

Built of high-grade furniture steel smoothly finished and given successive coats of baked-on enamel in Olive Green (standard) French Grey, Khaki, Corona Green or other color desired. The name

DENNISTEEL
Made in Canada

has come to represent Canada's best in steel lockers, shelving' cabinets, bins, etc.

We have pioneered in this industry and maintain our leadership by uniform excellence of product. Let our Engineering Dept. assist you with plans, detail drawings, estimates, etc. Write for illustrated folders to-day.

THE DENNIS WIRE AND IRON WORKS CO. LIMITED
LONDON
CANADA

Halifax, Montreal, Ottawa, Toronto, Hamilton, Winnipeg, Calgary, Vancouver



Speed up with Electric Power

C-G-E Motors and Control increase production and reduce maintenance

The illustration on the right shows 19 C-G-E Motors, each 175 H.P., driving tube mills in a cement plant. On the left is shown a 50 H.P. C-G-E Motor in a rubber plant.

These are some of the ways in which modern industry has been speeded up by putting electric power to work in the right place.

The engineering problems solved in putting electric power to work in these and other industries were many and intricate. Production of electrical equipment suited to this work and in quantities required is an important part of this company's service to Canadian industries.

Any problem involving the use of power can be simplified by the application of electricity. The Canadian General Electric Company is well equipped to lend valuable assistance in working out such problems and is glad to co-operate with contractors, manufacturers and engineers in every possible way.

C-G-E Motor Drive

For further particulars write to our nearest office

CANADIAN GENERAL ELECTRIC CO.

LIMITED

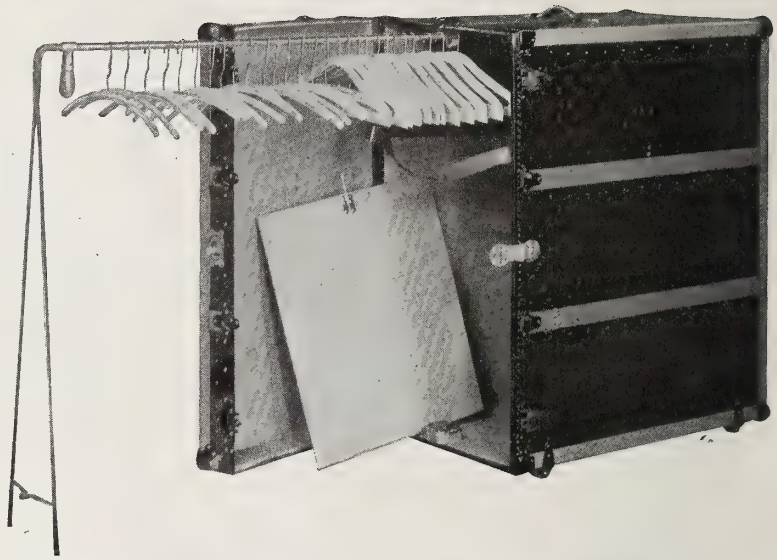
Head Office : Toronto. Sales Offices : Montreal, Halifax, Sydney, St. John, Ottawa Cobalt, South Porcupine, London Winnipeg, Calgary, Edmonton, Nelson, Vancouver and Victoria

SHOW YOUR SAMPLES UNWRINKLED

WARDROBE TRUNKS

for Suits, Coats, Dresses and Waists

WE MAKE
SAMPLE TRUNKS
AND CASES
FOR EVERY
BUSINESS



Let us know your needs and get our prices.

The M. Langmuir Mfg. Co. of Toronto
Limited

MADE IN CANADA

Two sound reasons for buying salt and chemical products—made in Canada—are

First—You can obtain products which are unrivaled for quality, strength or purity.

Second—Your money stays in Canada and helps to promote general prosperity.

WINDSOR SALT
REGAL SALT
CAUSTIC SODA
CHLORIDE OF LIME and
BLEACHING POWDER

are all made by Canadian workmen.

THE CANADIAN SALT CO., Limited
Windsor, Ontario

2

WIRE

PRODUCTS
Bright or Annealed

Bale Ties
Wire Nails and Staples

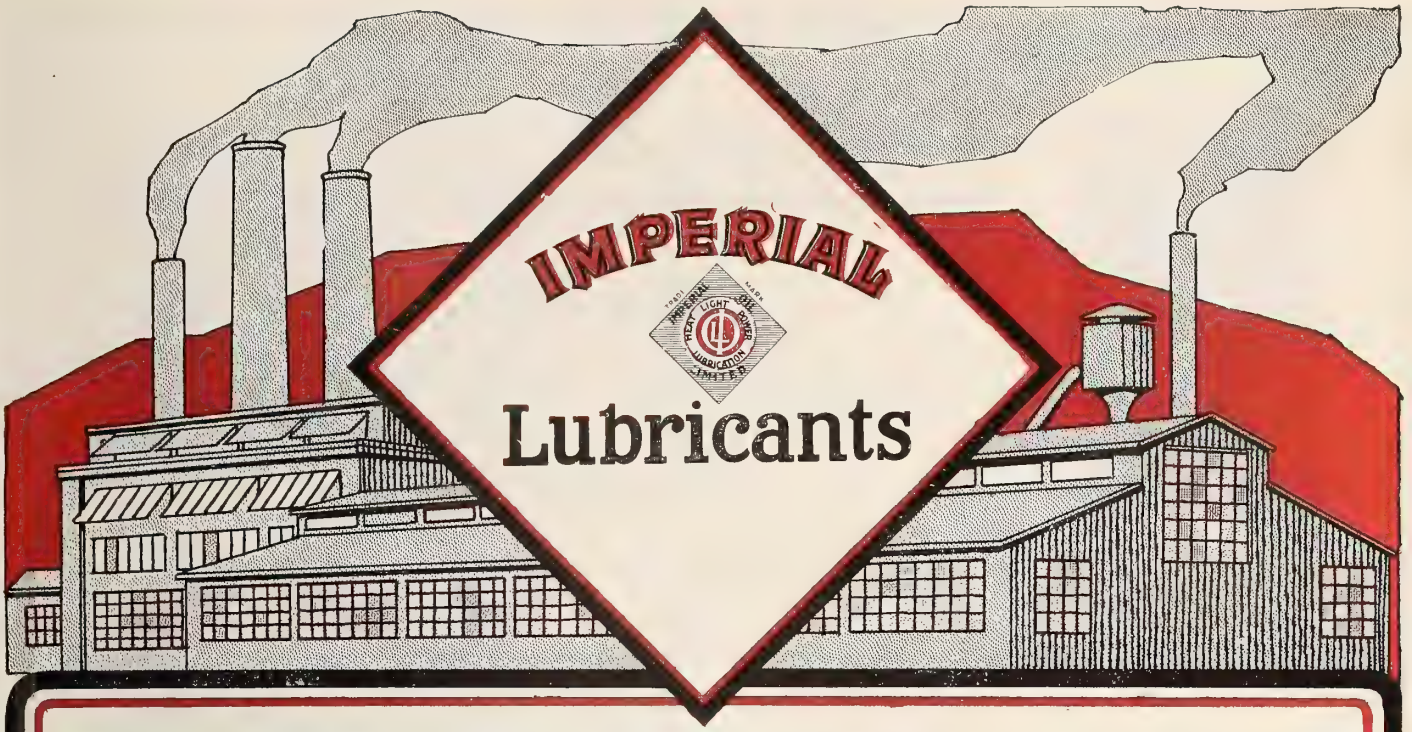
Wire straightened and cut to lengths

WIRE Barrel Hoops, also Brainard Flat Steel Barrel Hoops with Beaded Edge

FINE WIRE, Liquor Bright, Tinned, Coppered or Galvanized

The Laidlaw Bale-Tie Co., Ltd.
Wire Manufacturers
Hamilton •• Canada

A. T. DIGGINS, Stair Bldg., Toronto, Ont.
H. E. O. BULL, Montreal, Que.
HARRY F. MOULDEN, Winnipeg, Man.
MARK BRYAN, 24 Aldgate, London, E.C.



POOR LUBRICANTS EXPENSIVE AT ANY COST

INDUSTRIAL success is based on power. You cannot have efficient, economical power unless every power unit in your plant is properly lubricated. It is poor economy to consider price ahead of quality when deciding upon the lubrication of your power-plant.

Poor lubricants cost more per lubricating hour on any given dynamo or engine than good lubricants, even though the cost per gallon is necessarily higher on good lubricants. Poor lubricants often burn and wear themselves out at a provokingly fast rate.

Then, at best, poor lubricants cannot do well what they are bought to do. They are often lacking in many qualities that good lubrication requires. By using poor lubricants you materially shorten the life of expensive power units. The use of Imperial Lubricants is bound to show in reduced up-keep costs.

Every lubricant in our line is a uniform, scientifically and accurately formulated one. Imperial Lubricants do not vary.

Imperial Lubricants

For Manufacturing, Mining and Milling

CYLINDER OILS

Imperial Capitol Cylinder Oil
Imperial Beaver Cylinder Oil
Imperial Cylinder Oil
Imperial Shield Cylinder Oil
Imperial Ebony Cylinder Oil
Imperial Acme Cylinder Oil
Imperial Disc Cylinder Oil
Imperial Dominion Cylinder Oil

ENGINE OILS

Imperial Atlantic Red Engine Oil
Imperial Bayonne Engine Oil
Imperial Standard Gas Engine Oil
Imperial Kearsarge Engine Oil
Imperial Renown Engine and Dynamo Oil
Imperial Solar Red Engine Oil
Imperial Junior Red Engine Oil
Imperial Eldorado Engine Oil

Our Lubrication Engineers will be glad to consult with your own engineer or mechanical superintendent in deciding the proper lubrication for every power unit and machine in your plant.

Address our Home Office, 56 Church Street, Toronto, or any of our branches.

IMPERIAL OIL LIMITED

Power · Heat · Light · Lubrication

BRANCHES IN ALL CITIES



Canadian Carbide

Made in Canada

SOLD THE WORLD OVER

Second to None in

QUALITY, GAS YIELD AND PACKAGE

Works:
St. Catharines, Ont.
Shawinigan Falls Que.

MANUFACTURED BY

Canada Carbide Company, Limited
MONTREAL - CANADA

Patterns of All Kinds



Castings of Iron and Brass

Offices and Works: Commercial St., Levis, P.Q., Canada

LAUZON ENGINEERING LIMITED, LEVIS, P.Q., CANADA (Opposite Quebec)

Builders of Land and Marine Engines and Boilers.
BRASS AND IRON FOUNDERS.

MECHANICAL REPAIRS OF ALL KINDS.
ENGINEERS AND CONTRACTORS.

Head Office and Plant: LEVIS, P.Q., CANADA

Building of Marine Boilers and Engines; also Installation of same on board ship our specialty.

Our shops formerly known as The Carrier-Laine Shops are at present the best equipped in the Province of Quebec for this class of work. Our Shipping facilities are unexcelled. We have a Deep-Water Wharf adjacent to our plant, and our yard sidings are connected with three railways—Canadian Government Railways, the Grand Trunk Railway, and the Quebec Central Railway. We make patterns of all kinds, and Castings of Iron and Brass.



Fairbanks Dial Scales

Direct Reading, Gross or Net
Full Capacity
No Loose Weights
No Calculations



The Canadian Fairbanks-Morse Co., Limited

"Canada's Departmental House for Mechanical Goods"

Halifax, St. John, Quebec, Montreal, Ottawa, Toronto, Hamilton, Windsor, Winnipeg
Saskatoon, Calgary, Vancouver, Victoria

CANADIAN FURNACE CO.

LIMITED

PORT COLBORNE, ONT.

Manufacturers of Pig Iron

BRAND "VICTORIA"

"VICTORIA" FOUNDRY IRON

Strong—Soft—Neutral

"VICTORIA" MALLEABLE IRON

Furnished to all Standard Analyses

SOLE SALES AGENTS:

M. A. HANNA & CO.

Cleveland, Ohio

BUFFALO, N.Y. PITTSBURG, PA. DETROIT, MICH

TORONTO, ONT.

Russell Motor Car Co., LIMITED

1209 King St. West
Toronto

Sale of Industrial Plant Supplies

Many lines ready for immediate shipment from the premises, King and Dufferin Streets.

The Following May be Mentioned:

Grinding Wheels,
Tool Steel,—
(High-Speed or
Carbon),
Cold-Rolled Steel,
Set Screws,
Wood Screws,
Paint,
Machine Bolts,
Twist Drills,
Machinery Steel,
Machinery Screws,
Cap Screws,
Nails,
Carriage Bolts,
Electrical Devices,
Machinists' Tools,
Small Machine Tools.

Used Machinery:

National Acme Automatics—Gridley Automatics—B. & S. Polishing Machines—Motors—Burke Millers—Straight and Tilted Turret Lathes—Leland-Gifford and Avey Drills—Time Clocks—Card Racks—Pulleys, Iron and Wood Split—Used Belting—Hangers.

Let us have a list of your requirements. It will pay you to see us before purchasing elsewhere.

200

MOTOR WORKS HAMILTON LIMITED GEARS HAMILTON CANADA

GEARS
Spur
Worm
Spiral
or Gear Cutting from your blanks.

Hamilton Motor Works, Limited
HAMILTON, CANADA

FORGED STEEL TOOLS
AXES, HAMMERS, WRENCHES
CANADA
FOUNDRIES & FORGINGS, LIMITED
BROCKVILLE, CANADA

LIST OF MOTORS

No.	H.P.	Phase.	Speed.	Volts.	Cycles.	Starter.	Make.
1....	15	3	1500	550	25	Yes	T.H.E.
1....	50	3	750	550	25	Yes	Can. Gen. Elec.
1....	60	3	750	550	25	Yes	Crocker Wheeler
2....	50	3	750	220	25	Yes	Lincoln
1....	25	3	750	220	25	Yes	Lincoln
1....	25	3	750	220	25	Yes	C.G.E.
1....	10	3	1500	220	25	Yes	T.H.E.
1....	3	3	1500	220	25	Yes	Westinghouse CCL
1....	½	1	1800	110	60	No	Fort Wayne
1....	¼	1	1800	110	60	No	Westinghouse
1....	¼	1	1800	110	60	No	Fisher
1....	40	2	900	220	60	Yes	Fuller Wenstrom
1....	15	2	1800	220	60	No	T.H.E.
2....	5	2 or 3	1800	...	60	No	West. CCL rewound
2....	1	2 or 3	1800	...	60	No	West. CCL rewound
1....	½	2	1800	220	60	No	Westinghouse CCL
2....	10	2 or 3	1200	...	60	No	West. CCL rewound
1....	5	..	1200	220	60	No	Union (New)
2....	3	3	1800	220	60	No	C.G.E. rewound
4....	7½	3	1800	220	60	Yes	Lincoln

TRANSFORMERS

1.... 40 K.W. Type R 2200-220 volts. Packard

PLATER

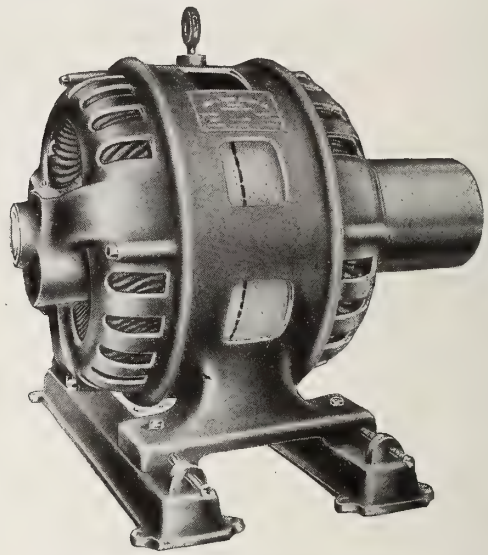
1.... Type C Ostrander Seymour 6 volt—speed 750—amp. 800

Toronto and Hamilton Electric Co Limited

99-103 McNab St. North, Hamilton

Jones & Moore Electric Co. Limited

294-300 Adelaide St. West - TORONTO



ONTARIO REPRESENTATIVES FOR

CENTURY ELECTRIC MOTORS

We make Alternating and D. C. Motors and Generators and

REPAIR ALL KINDS OF ELECTRICAL MACHINERY

Castor Oil

Cocoanut Oils

English Degras

We are direct importers of vegetable oils. Can make immediate delivery of Cocoanut and Castor Oils, English Degras and English Linseed Soap.

DOMINION OIL COMPANY
LIMITED

Royal Bank Building

HAMILTON - - - ONTARIO

MUELLER

REDUCING AND REGULATING VALVES

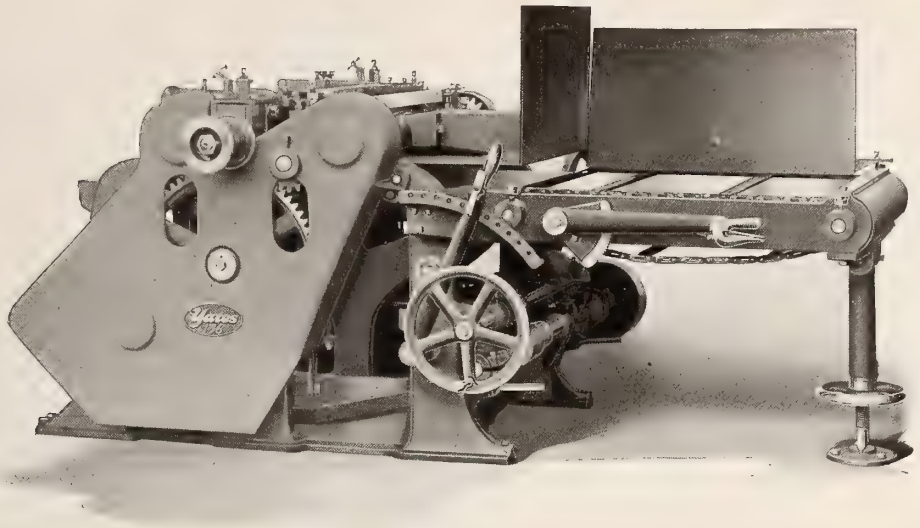
The right kind of valve is one that is adapted to your particular service. Different services under different conditions necessitate different types of valves. Don't guess. Consult us. When *MUELLER* valves are installed under our supervision we fully warrant them to control the service for which they are recommended. We make valves for water, steam, gas, air, oil and ammonia.

Victory Loan, 1918, H. Mueller Mfg. Co. Ltd., first in Canada to exceed quota and receive Honor Flag.

H. Mueller Mfg. Co. Ltd.

SARNIA, CANADA

A Simple Single Surfacer



"The Invariable Choice of the Man Who Knows."

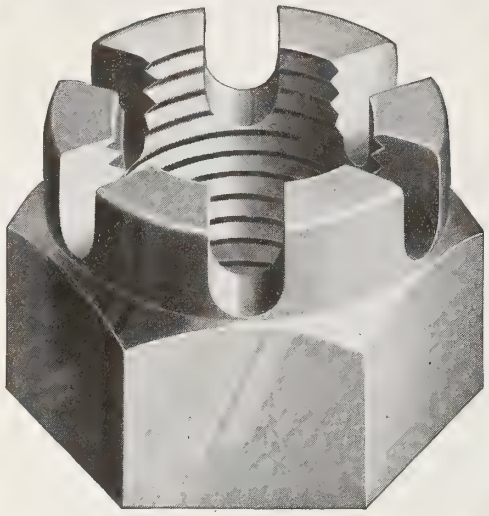
Yates No. 156 Cabinet Single Surfacer

SIMPLICITY and strength are two outstanding features of the No. 156. It is easy to operate and is built to last beyond your expectations. Built with or without motor drive and hopper feed. Equipped with Yates head and knives, it will give a super-finish to cabinet, furniture or box stock.

Write for our illustrated No. 156 circular. Of interest to all users of woodworking machines. Sent free on request.

Yates

P. B. Yates Machine Co. Ltd.
HAMILTON, ONT. CANADA
U.S. PLANT—BELOIT, WIS.



Castellated Nuts

Cap and Set Screws

PLAIN NUTS IN STOCK



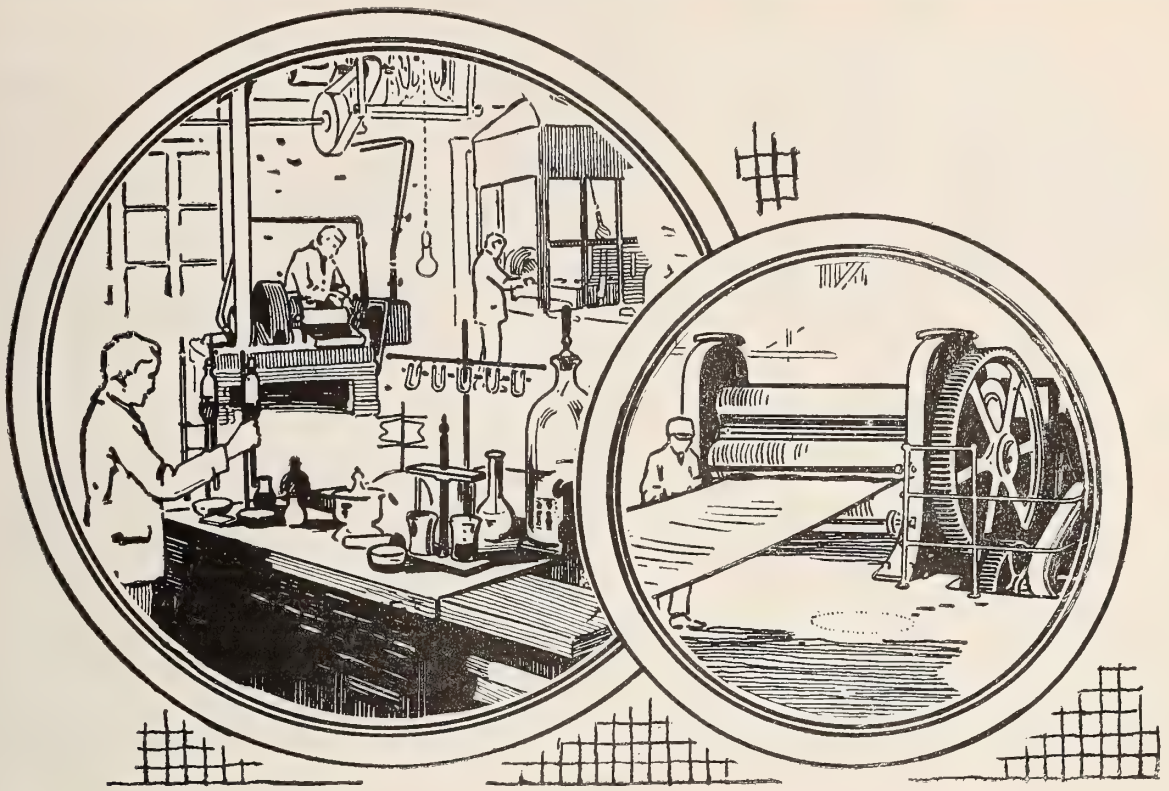
Standard sizes and threads

Special screw machine work made to specifications from Iron, Steel and Brass Bars in sizes up to 2¼" and 10½" long.

Quotations on your samples or blueprints.

The National Acme Company

De Courcelles and G. T. R. Montreal, P.Q.



The Quality Standard that Produces "Plus Service" Belting

The only sure way to get satisfactory service is to buy products of known worth.

In Dominion Rubber System Belting, the worth is known because every ounce of material—each individual operation and each finished belt must test up to the highest quality standard ever made for belting.

From the time the materials come into our factory until the belt is running on your pulleys, there is no chance of your getting anything but "plus service" belting.

This is the result of over fifty years of belt-making experience and research by the oldest, largest and most completely equipped rubber organization in Canada.

The rubber that goes into Dominion Friction Surfacing Belting is not a mere water-proofing substance—our chemists have given it a far greater value by making it into a friction compound that prevents practically all power wastage on the pulleys.

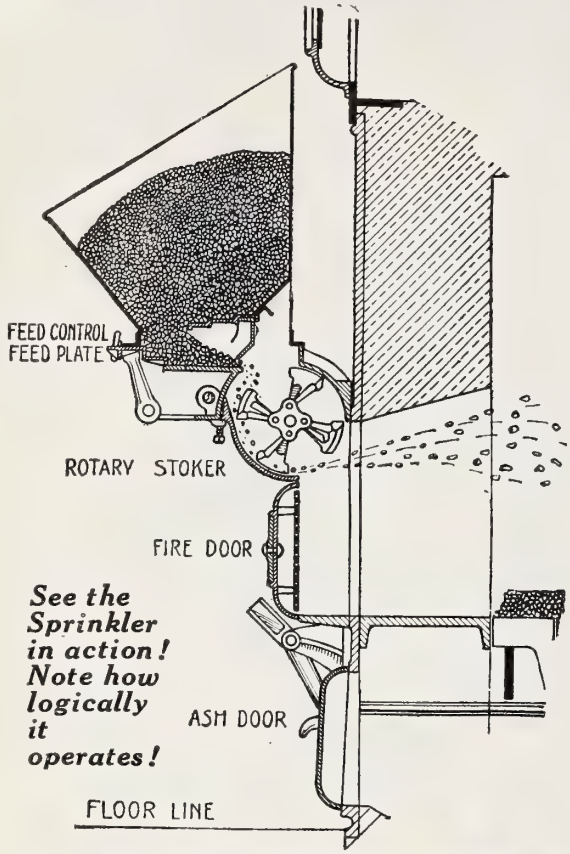
"Plus service" includes the free technical advice of our belting engineers who are ready to help you with your transmission and conveying problems without placing you under obligation to us.

A phone call, wire or letter to our nearest branch places all of our facilities at your disposal.

CANADIAN CONSOLIDATED RUBBER CO. LIMITED
DOMINION RUBBER SYSTEM
AND ASSOCIATED COMPANIES

Service Branches

Halifax	London	Saskatoon
St. John	Kitchener	Edmonton
Quebec	North Bay	Calgary
Montreal	Fort William	Lethbridge
Ottawa	Winnipeg	Vancouver
Toronto	Brandon	Victoria
Hamilton	Regina	



See the Sprinkler in action! Note how logically it operates!

THE GALT FOUNDRY CO., Limited

OFFICE AND WORKS:

Galt - - Ontario

PRODUCT

THE GALT SPRINKLER STOKER

For Smokeless and Economical Combustion and Utilizing Low-Grade Fuels

The Galt Sprinkler Stoker is a real Coal Saver, and can be installed on Power and Heating Boilers, Annealing Furnaces, and in all classes of Installations.

Will burn any kind of fuel from anthracite dust up to 3" lump.

ADVANTAGES

They give complete and smokeless combustion.
" feed the fuel to the furnace with the doors shut.
" do not require skilled Firemen.
" maintain a brilliantly hot fire.
" are simple, strong and beautifully made.

The Galt Sprinkler Stoker automatically feeds and uniformly spreads the fuel to the furnace in a light, continuous stream, and gives a perfectly level fire 3 to 4 inches thick.

Send for one of our Combustion Engineers to look over your plant—no obligation.

Galt Stokers Burn Cheap Fuel and Less of it

ASK FOR 10 FACTS AND 10 LETTERS ABOUT THE GALT STOKER



WRITE FOR CATALOGUES AND DETAILED INFORMATION

INDEX TO DISPLAY ADVERTISEMENTS

Adams Cellboard Co. 162
Algoma Steel Corporation, Ltd. 12
Andrews, H. V. 129
Armstrong, Whitworth Co. of Canada, Ltd. 139
Atkins, E. C. & Co. 114

Banfield, W. H., & Sons 10
Bank of Montreal 92
Barrett Co., Ltd. 46
Bathurst Lumber Co. 113
Beatty, M., & Sons, Ltd. 108
Benjamin Electric Co. 79
Bennett & Wright Co., Ltd. 131
Bernard Industrial Co., The A. 29
Bertram, John, & Sons, Ltd, ... 5
Boiler Inspection & Insurance Co. 144
Bond Engineering Co. 26
Booth-Coulter Copper & Brass Co., Ltd., The 117
Bradstreets 96
British American Oil Co., Ltd..Inside front cover
Brown Bros., Ltd. 96
Brown Corporation 150
Brown's Copper & Brass Rolling Mills .. 20
Brown Engineering Corporation 150
Burlington Steel Co., Ltd. 141
Butterfield & Co. 146

Canada Carbide Co., Ltd. 34
Canada Foundries & Forging Co. 37
Canada Machinery Corporation 27
Canada Metal Co., Ltd. 139
Canada Wire & Iron Goods Co. 114
Canadian Appraisal Co. 101
Canadian Bank of Commerce 93
Canadian Blower & Forge Co. 146
Canadian Bridge Co., Ltd. 143
Canadian Carbonate Co., Ltd. 105
Canadian Chicago Bridge & Iron Co., Ltd. 150
Canadian Collapsible Tube Co. 108
Canadian Consolidated Rubber, Ltd. .....
Outside back cover and 41
Canadian Crocker-Wheeler Co., Ltd, ... 3
Canadian Drawn Steel Co., Ltd. 143
Canadian Fairbanks-Morse Co. 35
Canadian Furnace Co. 36
Canadian General Electric Co. 31
Canadian General Fire Extinguisher Co... 107
Canadian Hart Wheels, Ltd. 24
Canadian Industrial Alcohol Co., Ltd. 121
Canadian Ingersoll Rand Co. 14
Canadian Link Belt Co. 104
Canadian Mathews Gravity Carrier Co... 110
Canadian Morehead Mfg. Co. 18
Canadian National Railway 151
Canadian Oil Cos, ... 124
Canadian Pacific Railway 149
Canadian Rumely Co. 144
Canadian Salt Co., Ltd. 32
Canadian Steel Foundries 127
Canadian Tube & Iron Co., Ltd. 141
Canadian Westinghouse Co., Ltd. 44
Caron Bros. 105
Chapman Double Ball Bearing Company of Canada, Ltd. 123
Clarke, A. R., & Co., Ltd. 133
Commercial Acetylene Supply Co., Inc. .. 106
Conduits Co., Ltd. .....Inside back cover
Coralox, Ltd. .....Inside front cover
Consolidated Mining & Smelting Co. of Canada, Ltd. 2
Clyde Motor Truck Co. 81

Dart Union Co., Ltd. 1
Delaney & Pettit, Ltd. 99
Deloro Smelting & Refining Co. 18
Dennis Wire & Iron Goods Co. 30
Dodge Mfg. Co. 13
Dominion Abrasive Wheel Co., Ltd. 134
Dominion Bridge Co., Ltd. 137
Dominion Copper Products Co, ... 123
Dominion Forge & Stamping Co. 136
Dominion Foundries & Steel, Ltd. 128
Dominion Oil Co. 38
Dominion Tar & Chemical Co., Ltd. 139
Dominion Wire Rope Co. 143
Doon Twines, Ltd. 145
Dunham, C. A., Co. 3
Dunlop Tire & Rubber Goods Co., Ltd... 80
Dupont Fabrikoid Co. 134
Dominion Belting Co. 111
Dominion Sheet Metal Co. 6

Economy Fuse & Mfg. Co. 29
Eddy, E. B., & Co., The 125
Elder, Dempster & Co., Ltd. 148
Electric Steel & Metal Co., Ltd. 129
Engineering & Machine Works 122
Eureka Mineral Wool & Asbestos Co. 129

Foley & Co., Jas. W. 118
Ford Motor Co. 25

Galt Foundry Co, ... 42
Galt Knife Co. .....Inside front cover
Galt Malleable Iron Co., Ltd. 126
Gardner, R., & Sons, Ltd. 126
Garlock Packing Co. 117
Gibbons, J. J., Ltd. .....Outside front cover
Goderich Organ Co., Ltd. 96
Goldie & McCulloch, Ltd., The 19
Goodhue, J. L., & Co,, Ltd. 132
Goodyear Tire & Rubber Co. 21
Grace & Co., Ltd. 1
Grasselli Chemical Co., Ltd., The..... 135
Gray, J. V., Construction Co. 129
Greening, The B., Wire Co., Ltd. 28
Gutta Percha & Rubber Manufacturing Co. of Toronto, Ltd. .....Inside back cover

Hamilton Bridge Works, Ltd, ... 115
Hamilton Gear & Machine Co. 6
Hamilton Motor Works 37
Hay Knife Co., Ltd., The Peter 162
Hinde & Dauch Paper Co. of Canada, Ltd., The 135
Howard Smith Paper Mills, Ltd. 94
Hoyt Metal Co. 111
Hull Board of Trade 83
Hull Iron & Steel Foundries 115
Hydraulic Machinery Co. 9

Imperial Bank of Canada 92
Imperial Oil Co., Ltd. 33
Inglis, John, Co., Ltd. 23
International Business Machines, Ltd,... 84-85

Jardine, A. B., & Co. 30
Jenkins Bros., Ltd. 11
Jones, J. L., Engraving Co., Ltd. 138
Jones & Moore Electric Co., Ltd. 38
Jones Underfeed Stoker Co. 10

Kennedy, Wm., & Sons, Co. 30
Kerr Engine Co., Ltd, ... 122

Laidlaw Bale-Tie Co., Ltd. 32
Langmuir Mfg. Co. 32
Lauzon Engineering, Ltd. 34
Leonard, E., & Sons 16
Leslie, A. C., Co. .....Inside back cover

Macdonald Manufacturing Co., Ltd. 136
MacKinnon Industries, Ltd. 101
MacKinnon Steel Co., Ltd. 110
Macdonald, W. C., Reg. 124
Mahaffy, W. S., Co. 119
Maritime Bridge Co. 143
Massey-Harris Co., Ltd. 8
Maples, Ltd. 118
McClary Manufacturing Co. 112
McGregor & McIntyre, Ltd. 120
McLaren, D. K., Ltd. 132
McLaren, J. C., Belting Co., Ltd, ... 133
Meadows, The G. B., Iron & Brass Works Co., Ltd. 7
Merchants Bank 95
Milton Hersey Co. 119
Montreal Cottons, Ltd. 145
Montreal Locomotive Works, Ltd. 128
Morris, The Herbert, Crane & Hoist Co., Ltd. 8
Morrow, John, Screw & Nut Co., Ltd. ... 22
Mueller Mfg. Co. 38

National Acme Mfg. Co., The 40
New Zealand Shipping Co., Ltd., The.... 148
Nichols Chemical Co., Ltd., The 131
Nicholson File Co. 142
Northern Aluminum Co., Ltd, ... 131
Northern Crane Works, Ltd. 16
Northern Electric Co., Ltd. 29
Nova Scotia Steel & Coal Co., Ltd. 26

Office Specialty Mfg. Co. 90
Ontario Government Notices 152
Ontario Wind Engine & Pump Co., Ltd.. 147
Ormsby, A. B., Co., Ltd. 17
Otterville Mfg. Co., Ltd..... 144

Pedlar People 22
Penmans, Ltd. 145
Perrin, Wm. R., Ltd. 144
Pratt & Whitney Co. 4
Prest-O-Lite Co. 24
Purdy, Mansell, Ltd. 147

Ramsay & Son Company, A. 24
Richards-Wilcox Canadian Co., Ltd. 2
Richie & Ramsay Paper Co. 99
Ridout & Maybee 108
Riordan Sales Co. 96
Royal Bank of Canada 93
Russell Motor Car Co. 37

Scythes & Co. 140
Sheldons, Ltd, ... 125
Shipman, Harold C., & Co. 86-87-88
Shurley & Derrett, Ltd. 140
Smart-Turner Machine Co. 28
Standard Chemical, Iron & Lumber Co. .. 137
Stanley Steel Co., Ltd. 16
Steel Co. of Canada, Ltd., The 103
Steel Trough & Machine Co., Ltd. 150

Tallman Brass & Metal Co., Ltd. 127
Thompson & Norris Co., of Canada, Ltd. Outside back cover
Thorne, Mulholland, Howson & McPherson 96
Toronto Hydro-Electric System 147
Toronto Iron Works 131
Toronto & Hamilton Electric Co, ... 38
Trades & Labor Branch 152
Trussed Concrete Steel Co., of Canada, Ltd. 15

Union Bank of Canada 95
Union Drawn Steel Co., Ltd., The 141

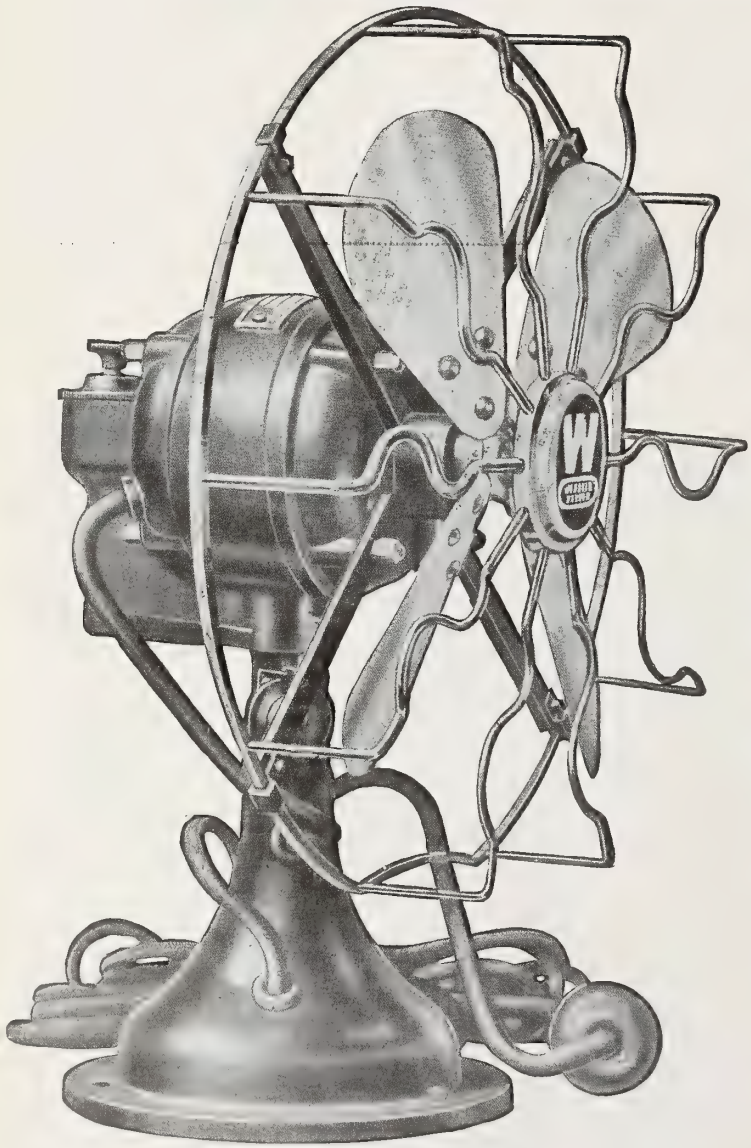
Waterous Engine Works Co. 120
Wells & Gray 109

Yates, P. B., Machine Co., Ltd. 39

For Buyers' Guide see page 153

Westinghouse
Electric Fans

The drawn-steel-frame construction permits a satin-like finish that is one of their distinguishing features



Westinghouse 10-inch Oscillating Fan

Their beauty of finish and striking appearance single them out anywhere.

Given an oiling once a season, they run for years without further attention.

The line includes fans for the home, office, factory, restaurant, hotel, theatre, in short for every place where a fan is used, and includes oscillating and non-oscillating desk and bracket fans; ceiling and gyrating fans; exhaust fans and blowers.

For full particulars of fans and blowers address nearest office.

Canadian Westinghouse Company, Limited, Hamilton, Ontario

TORONTO Traders Bank Bldg. | MONTREAL Guarantee Co.'s Bldg. | OTTAWA Ahearn & Soper, Ltd. | HALIFAX 105 Hollis St. | FORT WILLIAM Cuthbertson Block

WINNIPEG 158 Portage Ave. E. | EDMONTON 211 McLeod Bldg. | CALGARY Canada Life Bldg. | VANCOUVER Bank of Ottawa Bldg.

INDUSTRIAL CANADA

Issued monthly as the official publication of the Canadian Manufacturers Association (Incorporated), and devoted to the advancement of the industrial and commercial prosperity of Canada.

PRESIDENT OF THE ASSOCIATION
W. J. Bulman, Bulman Bros., Limited.....Winnipeg

VICE-PRESIDENTS
T. P. Howard, Phenix Bridge & Iron Works, Ltd. ...Montreal
J. S. McKinnon, S. F. McKinnon & Co., Limited,...Toronto

PUBLICATION COMMITTEE
J. F. M. Stewart (Chairman).....Pointe Anne Quarries, Ltd.
J. S. McKinnon.....S. F. McKinnon & Co., Limited
J. F. Ellis.....Barber-Ellis, Limited
J. Allan Ross.....Wm. Wrigley Jr. Co., Limited
J. F. MacKay.....Russell Motor Car Co., Limited

INDUSTRIAL CANADA DEPARTMENT
Advertising Manager.....D. B. Gillies
Acting Editor.....W. A. Craick

OTTAWA OFFICE (217 Booth Building)
Representative.....G. M. Murray
Assistant.....E. Blake Robertson

C.M.A. OFFICIALS
Head Office, Toronto
General Manager.....J. E. Walsh
General Secretary.....J. T. Stirrett
Manager, Transportation Department.....J. E. Walsh
Assistant Manager, Transportation Department..S. B. Brown
Managers, Insurance Department..Willis, Faber & Co., Limited
Manager, Tariff Department.....J. R. K. Bristol
Manager, Commercial Intelligence Department..Alex. Marshall
Secretary, Legal Department.....H. Macdonald
Manager, Trade Sections Department.....J. M. McIntosh
Office Manager and Accountant.....J. Winfield

BRANCH SECRETARIES
Montreal Branch.....W. P. Hughes, Montreal
Toronto Branch.....H. Macdonald, Toronto
Prairie Provinces Branch.....G. E. Carpenter, Winnipeg
Maritime Provinces Branch...H. R. Thompson, Amherst, N.S.
British Columbia Branch.....H. Dalton, Vancouver, B.C.

CONTENTS OF THIS ISSUE

Editorial Comment 47
The need for protection—Industrial unrest—Stop talking prices—England as a protectionist country.

News and Views of the Association ..... Official 51
Annual meeting announcements—New members—Royal Commission on industrial relations—Progress on trade index.

Canada's Participation in the Lyons Fair ..... W. P. Hughes 57
Scope of the exhibits made by Canadian manufacturers—Results of the exhibition—Difficulties encountered.

Work of the Canadian Mission in London ..... R. J. Younge 62
Functions of the Commission explained—Some of the results already secured—Recommendations made by the Commission.

The Canadian Trade Commission at Ottawa ..... Ernest B. Roberts 63
Preliminary work heavy and complex—Many inquiries for information—The stabilization of prices.

Work of the Canadian Reconstruction Association ..... Sir John Willison 64
Report of Executive Meeting at Montreal—Movements of Mr. Weaver—The development of natural resources.

Science and Research in Reconstruction ..... Thomas Roden 65
The meaning of science and research—Carrying on the war required intimate application of science to industry.

Canada's Big Repatriation Machine at Work ..... W. G. Cates 67
An explanatory article describing the functions of the various departments and committees charged with this work.

Progress of Science and Industry in Canada ..... Prof. J. C. McLennan 71
War has given immense impetus to industrial development in Canada and results accomplished have been notable.

Power Development in Maritime Provinces ..... K. H. Smith 76
Hydro-Electric power in quantities greatly in excess of immediate needs lies practically at the door of Halifax.

Office and Finance 91
Among the Industries 100
Good Things from other Magazines 116

SUBSCRIPTION
Two Dollars per Year Single Copies 20 cents
Advertising Rates made known on application

OFFICES
1404 BANK OF HAMILTON BUILDING
TORONTO

Made in Canada



This is the Bond that guarantees your roof for 20 years.

Free of Repairs for Twenty Years

WHEN the engineering staff of the Montreal Tramways Co. wrote the specifications for this handsome little power-house, they merely said, as to the roof :

> "The roof shall be laid according to The Barrett Specification dated May 1, 1916, and the roofing contractor shall secure for us the 20-Year Guaranty Bond therein mentioned."

On this fair and precise basis, roofers could bid intelligently.

The Metal Shingle & Siding Co., Limited, of Montreal, was the successful bidder.

When ready to commence work, they notified our Montreal office and we sent our inspector to verify compliance with the specification. He reported "O.K." and we forthwith issued to the owners, without charge, a Barrett 20-Year Guaranty Bond, indorsed by a well-known surety company, guaranteeing the roof free of repairs for twenty years.

The 20-Year Bond is now given on all roofs of fifty squares and over in all towns with a population of 25,000 and more, and *in smaller places where our Inspection Service is available.* Our only requirements are that The Barrett Specification dated May 1, 1916, shall be strictly followed and that the roofing contractor shall be approved by us.

Copies of The Barrett 20-Year Specification, with roofing diagrams, mailed free on request.

MONTREAL TORONTO ST. JOHN, N.B. **The Barrett Company LIMITED** WINNIPEG HALIFAX, N.S. VANCOUVER SYDNEY, N.S

INDUSTRIAL CANADA

ISSUED BY

The CANADIAN MANUFACTURERS ASSOCIATION.

INCORPORATED.

Vol. XX. TORONTO, MAY, 1919 No. 1

Editorial Comment

The Need for Protection

"THOSE in this country who are so assiduously urging the lowering of the tariff barriers, have a very poor conception of the necessity for protection, and more protection in the Dominion, when they advocate that Canada should become the dumping ground for America's surplus products," says the British Columbia *Colonist*. "Given the opportunity, she could sell cheaper in Canada, but the result would be unemployment in those local industries that would be affected by a reduction in the present tariff. The prairie farmers' desire for freer trade with America is dictated by selfish reasons."

The *Colonist* proceeds to give a very able defence of the doctrines of protection. The sentiment at present, as in the past, in British Columbia is running strongly in support of reasonable protection for Canadian industry. This policy is confined not only to the industrial and business population, but has also been endorsed by the United Farmers of British Columbia and the British Columbia Fruit Growers' Association. It would appear that all classes in British Columbia are solidly united against any change in the fiscal policy under which Canada has prospered.

Labour

WAGES must always bear an intimate relation to the cost of living because they constitute the chief factor which determines the cost of living. The price paid to labor in producing any article largely determines the cost of that article to the consumer. This well-known law is responsible for what is described as the "vicious circle." Every working man is a consumer of the products which are made by other working men. His cost of living is determined by the wages which his fellow-workmen get for making the boots and clothing which he and his family wear, by the wages which the workmen get who manufacture the materials from which his house is built, and by the wages which are paid to the workmen who transport him from place to place. This is so elementary that it appears strange that it would be necessary to refer to it, and yet it is the point which is constantly overlooked. It is the purchasing power of wages that is important. The nominal amount signifies nothing. So long as each group of workers keep driving up their wages by concerted action, how can the cost of living come down?

Doing Good Constructive Work

A WORD of commendation should be accorded the Montreal *Star* for its enterprise and useful service in featuring every other week in its Saturday edition a two-page department entitled, "Canada in the Building." The purpose of the department is to educate the public through contributions from the persons who are recognized as knowing the most about all questions affecting production. So far in the series are to be noted articles from C. B. Hibbard, manager bond department of St. Cyr, Gonthier E. Frigon, on railway administration; from Arthur Surveyer, member of the Advisory Council for Scientific and Industrial Research, on "Making Our Titaniferous Iron Ore Valuable"; from Ferd. van Bruyssel, C.E., D.P.Sc., on "Suggestions for Stimulating Canadian Production and Export Trade"; from Dr. E. B. Fernow, Dean of the Faculty of Forestry, University of Toronto, on "Forestry in Eastern Canada"; from Prof. A. P. Coleman, M.A., Ph.D., University of Toronto, on "The Nickel Industry in Canada"; from Alfred W. G. Wilson, Ph.D., on "Pyrites and Industry," and others.

It is gratifying to note when so many publications in Canada are levelling destructive criticism against our industries, that here and there some newspaper is stepping beyond the narrow vision of the fault-finders and viewing the situation from a broad, constructive standpoint.

Industrial Unrest

THERE is some real industrial unrest in Canada, but there is also a considerable amount of manufactured unrest which has been artificially stimulated by those who hope to profit from it. It would be impossible to escape unrest during the process of getting a half million men out of the army and back into civil life. The amazing thing has been that there has been so little. The encouraging feature is that employers, employees, soldiers, civilian societies and the public generally have tried so hard and successfully to get the thing done. We have got through

the crisis of the winter. Demands for workers are becoming more numerous as the spring and summer activities get under way. There has been no real industrial trouble in Canada. There are new problems to be met. New ideas are in the air. These are being examined to see what they are worth. There will always be disputes so long as there are two sides to a question, but in going into the factories and talking to the men in them, disinterested investigators would find that there are very few real grievances which cannot be solved by co-operation and compromise. After the extreme people on both sides get through talking, the tolerant and sensible men get something done. The employers know that they must co-operate with their employees. The sensible employees, and they are in the majority, know that labor is the chief cost of production. They know that this cost can be increased only to a certain point. After that point the selling price of the article is forced upward, and the article cannot be sold on the market under competition, either at home or abroad. They know that their living depends entirely on the sale of that article in sufficient quantities to keep a factory running. Therefore, questions of hours and wages always bear directly on this point and cannot be divorced from it.

Mr. John McClary on the Tariff

THE following letter, written by Mr. John McClary of The McClary Mfg. Co., London, Ontario, to Mr. Hume Cronyn, M.P. for London, was published in the *London Free Press,* points out that the Western United States passed through the same agitation which is now affecting Western Canada:

Hume Cronyn, Esq., M.P., Ottawa:

DEAR MR. CRONYN.—Permit me, through your valuable services, to say something on the tariff question.

The present persistent efforts of the West to lower our tariff beyond safe limits for this country, if successful, will bring disaster on our cities. I estimate that more than one-half of the population in our eastern cities is supported directly or indirectly through the factories. Should seriously disturbed tariff be enforced our factories would tumble like ninepins. Banks would suffer losses through advances to manufacturers. Insurance, loan and trust companies would suffer heavy losses through loans on city property. Labor would have to seek employment from our ample, protective neighbors across the border. We would be required to remit our liquid assets, so necessary for the development of our country, to keep control of exchange within moderate limits.

The United States has passed through the same persistent efforts in settling up their great western country. The West wanted to sell in an open market regardless of the interests of the other sections of the country, when manufacturing began to develop and build up cities in the West, creating great home markets for the products of the farm—the best of all markets; this counteracted the farm produce. The great cities, built through wise, substantial protection, insured employment to the people, creating wealth that is the envy of the world, in developing their great resources, which were second to none, except, possibly, the great undeveloped resources of our own country.

Are we to pursue a smaller course in developing our country, or are we to be permitted to see our tariff broken down, destroying the basis of development and affording an opportunity for our great rivals across the border to utilize this country as a feeding ground?

Our Government is loaning money to cities to build dwellings in order to relieve the present necessity of housing the people. Should our tariff, unfortunately and unwisely be broken down, within two or three years dwelling houses would go begging for occupants for the payment of taxes. This may appear to many to be a wild assertion. The Good Book tells us, "Where there is no vision the people perish." This is my vision. I think it is well within reasonable anticipation of the thoughtful man.

Yours truly,

London, April 30. (Signed) JOHN MCCLARY.

The Western States had to make their choice between Free Trade and Protection. They chose Protection. The growth of the Western States in agriculture, in industry and in all other departments of activity justifies the choice. The speeches and arguments in favour of lower tariffs and free trade which are now being made in Western Canada are the old arguments which were used ineffectively many years ago in a similar controversy in the Western States. Will be more effective in Western Canada to-day than they were in the Western United States?

Not All Free Traders

THAT the Grain Growers' organizations in Manitoba, Saskatchewan and Alberta do not represent all the farmers of Western Canada is shown by the resolutions recently passed in British Columbia by the United Farmers of British Columbia and the British Columbia Fruit Growers' Association, which will be found on page 53 of this issue. The demands of western grain growers for sweeping tariff reductions, leading up to free trade, do not get any sympathy from the farmers of British Columbia.

As the farmers of British Columbia are apparently solidly against the tariff proposals of the Western Grain Growers, and since the majority of the farmers in Ontario, Quebec, and the Maritime Provinces have not renounced their belief in the national policy of protection, which they have supported for forty years, the free trade group, which dominates the Grain Growers' Company, does not seem to have been very successful in convincing the farmers of Canada that the "Farmers' Platform," created by the Canadian Council of Agriculture under the guidance of certain grain growers, is a safe platform for the farmers.

England as a Protectionist Country

IN the preamble to its platform, the Canadian Council of Agriculture makes the following reference to the fiscal policy of Great Britain:

"And whereas the war has revealed the amazing financial strength of Great Britain, which has enabled her to finance, not only her own part in the struggle, but also to assist in financing her allies to the extent of hundreds of millions of pounds, this enviable position being due to the free trade policy."

The inference that Great Britain owes her enviable position entirely to the policy of free trade is not in accordance with the facts of economic history. In England, Cromwell, and in France, Colbert, were the first statesmen to devise a genuine protective system, in place of the existing fiscal systems which were designed to secure

revenue only from the national tariffs. Colbert defined the principal objects of the protective system as follows:

1. To prevent the importation of manufactured goods by the means of protective duties.
2. On the other hand, to favor the importation of raw materials and all commodities used in manufacture by reducing duties and all other charges which might restrict such importation.
3. Above all to encourage the exportation of national products by reducing taxes, or, if need be, by granting subsidies and bonuses.

Oliver Cromwell, in England, supplemented the protective tariff by the famous Navigation Act of 1651, which stipulated that all goods brought into England should be carried in English ships. The protective system remained in force in England from the time of Oliver Cromwell until 1845, when the repeal of the Corn Laws introduced what has been called the free trade system into England. It must be remembered, however, that even under free trade, England retained customs duties of a fiscal character, the operation of which constituted what is known as "tariff for revenue." Such duties were imposed by England, for example, on tea, coffee, sugar, tobacco, and wine. These duties are called fiscal because England did not wish to produce, or could not produce, any such commodities on her own soil. The British Government decided to re-establish certain customs duties in order to pay expenses on the South African war which gave a protective character to certain tariff schedules.

Consequently, England was among the first countries to adopt what is known as the protective principle in forming her tariffs, and she extended it to cover her shipping as well as her manufactures. During the period of nearly 200 years while England maintained a national protective tariff, she reached the position in international affairs in trade which she occupies to-day, that is she led the world.

Having secured this position she could afford to experiment. The theory which caused the partial change in her fiscal policy was this: England, an island, possesses the greatest mercantile marine in the world, and as she was not growing enough food to feed her people she believed that if she could import food and raw materials without duty she would get cheap food, clothing, housing, etc., for her workmen. As these are the chief expenditures of workmen, such workmen would be able to take lower wages. As wages are the chief factor in the cost of production, it follows that low wages would cause low selling prices. The same applied to the merchant marine. If sailors got cheap food, cheap clothing, and cheap houses, they could take low wages and consequently transportation rates would also be low. In other words, it was hoped that, chiefly on account of driving wages down to the lowest possible point, England might be made the workshop of the world, buying in other countries the food and raw materials she did not produce, carrying them cheaply to England in her own ships, manufacturing them cheaply at home in England and sending them abroad again cheaply as manufactures in her own ships. The same theory was acted upon by Holland, Norway, and Denmark, all nations which depend largely on their sea-borne commerce.

The free trade doctrine governed English tariffs, with the modifications mentioned from the repeal of the Corn Laws till the war, a period of about seventy years. During that time England retained her position as the foremost trading nation of the world, but whether this was due to the alteration in her fiscal policy, as the free traders claim, or whether it was due to the continued momentum of the prosperity which she had gained under 200 years of protection, as the protectionists claim, is a matter still open to argument. It is worth noting, however, that the enormous growth of the trade of protected nations such as Germany, France, and the United States caused the most serious misgivings in England during the ten years previous to the war. It is most significant to note that with the close of the war Great Britain adopted the most complete protection that has ever been adopted in any other country. This protection amounts to almost prohibition of imports from other countries. The only modification permits the importation of goods from the British Dominions.

Therefore, the fiscal system of England since 1651 has been: protection for about 200 years; free trade modified by impositions of tariff for revenue about 70 years; and now a return to the highest protection which has existed in English history.

Labour Clauses in the Peace Treaty

THE following nine clauses, proposed by the Commission on International Labor Legislation for insertion in the Peace Treaty, were adopted by the Peace Conference at Paris on April 28th:

(1) That labor should not be regarded merely as a commodity or article of commerce.
(2) The right of association for all lawful purposes by the employed as well as by the employers.
(3) The payment to the employed of a wage adequate to maintain a reasonable standard of life as this is understood in their time and country.
(4) The adoption of an eight-hour day, or a 48-hour week, as the standard to be aimed at where it has not already been obtained.
(5) The adoption of a weekly rest of at least 24 hours, which should include Sunday whenever practicable.
(6) The abolition of child labor and the imposition of such limitations on the labor of young persons as shall permit the continuation of their education and assure their proper physical development.
(7) The principle that men and women should receive equal remuneration for work of equal value.
(8) The standard set by law in each country with respect to the condition of labor should have due regard to the economic treatment of all workers lawfully resident therein.
(9) Each state should make provision for a system of inspection in which women should take part in order to insure the enforcement of the laws and regulations for the protection of the employed.

The adoption of the above clauses by the Peace Conference is of the greatest importance, as this action constitutes an international basis for labor legislation. The chief difficulty in the past has been that where the employers of one country desired to improve labor conditions they were prevented from doing so by the fact that countries which had not taken similar steps would be able to compete more favorably against them in the world's markets, owing to their ability to sell their goods at lower prices based on lower labor cost.

Invitation to the Annual Convention of the Canadian Manufacturers Association

TORONTO, May 1st, 1919.

To Members:

You are hereby notified that the Annual General Meeting of the Canadian Manufacturers Association for 1919 will be held in the King Edward Hotel, Toronto, on June 10th, 11th and 12th next. Business will commence at 10.30 a.m. on June 10th.

I earnestly hope that you will make a special effort to attend in order to give the Association the benefit of your co-operation and advice in solving the difficult problems which are now confronting the manufacturers of this country.

The Association is now entering what may be described as the third period of its history. During the first period, from 1872 to 1899, its activities were provincial and its membership limited to about 300. During the second period, from 1899, when it was organized as a National Association, to the signing of the armistice, the membership increased from about 300 to nearly 3,500, and branches were organized from coast to coast. The second period saw a great growth of manufacturing. The present period, beginning with the signing of the armistice, will be the period of readjustment from war to peace conditions, the continued and rapid development of Canada as a nation, and, I hope and believe, a corresponding development in the activities of the Association and in the increase of its membership.

Three of the most important matters for discussion at the Annual Meeting are the readjustment of the existing relations between employers and employees, the revision of the tariff and the development of export trade. In addition, there will be reports of the various committees which, during the past year, have dealt with an unusually large number of subjects of vital importance to Canadian manufacturers. It is from the views and decisions of the members present at the Annual Meeting that the policy of the Association for the coming year is largely shaped.

The programme outlining the business to be transacted will be mailed to you in due course. I appeal to you to make a special effort to be present.

Anticipating the pleasure of meeting you in Toronto on the above dates,

I remain,

Yours faithfully,

W. J. BULMAN,

President.

News and Views of the Association

There will be found each month in this department a record of the various activities of the Canadian Manufacturers Association during the preceding month. The information is supplied to INDUSTRIAL CANADA officially, and all members of the Association are urged to acquire the habit of reading and checking over the contents of the department carefully in order to keep themselves posted on the work of the Association

Mr. Lloyd Harris Will Attend Convention

Mr. Lloyd Harris, Chairman of the Canadian Trade Mission in London, England, will attend the Annual General Meeting of the Association in June.

Vancouver Island

A Section of the British Columbia Branch is being formed among the manufacturers of Vancouver Island, to be known as the Victoria and Vancouver Island Branch of the Association.

Handbook for Exporters

Arrangements have been made with the Canadian Trade Commission at Ottawa to send to all members of the Association a publication issued by the Canadian Trade Commission, entitlted: *"Handbook for Exporters."*

Labour Appeal Board

The representatives of manufacturers on the Labour Appeal Board now are: S. R. Parsons, Toronto; William Rutherford, Montreal. Alternative member, B. W. Coghlin, Montreal.

Amendments to By-Laws

Any member of the Association desiring to move an amendment to the By-Laws must give twenty days' written notice of the same. Notice of motion, therefore, must be in the hands of the General Manager of the Association not later than May 20th next.

Resolutions

The By-laws of the Association require that all resolutions for submission to the Annual General Meeting shall first be considered and reported upon by the Committee on Nominations and Resolutions. All proposed resolutions, therefore, should be forwarded immediately to the General Manager for submission to this Committee.

Whitley Report

The Whitley Report and various documents relating thereto has been re-published in a single pamphlet by the Department of Labour, Ottawa. This pamphlet was issued on April 10th last. A supply was secured from the Labour Department and one copy has been mailed to each member of the Association.

Nominations and Elections

All officers and committees (except the Executive Committee, which is a Committee of the Council) are elected by a majority of the members present at the Annual General Meeting. Any active member in good standing is eligible for election to any officer or to any committee (except as above), and may be nominated therefor by any other member in good standing. To be valid, a nomination must carry with it the consent of the member nominated. All nominations, whether from individual members or a Branch, must be in the hands of the General Manager of the Association not later than May 26th.

Mr. Hughes Back from the Lyons Fair

Mr. W. P. Hughes, Secretary of the Montreal Branch, has returned from the Lyons Fair, France, where he acted as representative of the C.M.A. Mr. J. M. McIntosh, Manager of the Trade Sections Department, who was in charge of the Montreal office during the absence of Mr. Hughes, has taken up his duties at Head Office.

Dominion Insurance Advisory Committee

The Dominion Insurance Advisory Committee will meet at Ottawa on May 9th, following the Convention of The National Fire Protection Association. The C.M.A. has four representatives on this Committee, and it is hoped that all will be present at the meeting, which will be a most important one in view of the subjects which are coming up for discussion.

Answer Questionnaire

A questionnaire, asking for information which should be on file at the Head Office of the Association has been sent to all members, with the request that such schedules as they care to answer should be filled in and returned to Head Office as soon as possible. This questionnaire, after several revisions, was approved at the last meeting of the Executive Committee.

National Fire Protection Association

The Annual Meeting of the National Fire Protection Association will be held this year in Ottawa on May 6, 7 and 8. The headquarters of the National Fire Prevention Association are at Boston, Mass., and the Association includes in its membership most of the institutes of architects and engineers, insurance and fire prevention and manufacturers' association in North America. It is a very well organized Association, and keeps up a constant campaign against all kinds of fire waste. The C.M.A. has been a member of the National Fire Protection Association for some time, and will be represented at the Convention by Mr. W. H. Shapley, Chairman of the Insurance Committee. Invitations were also sent to all other members of the Insurance Committee to attend the Convention. As this Convention is a most important one, competition among

American cities to secure it is very keen, and it is a matter for congratulation that it will meet this year in Canada.

Twenty-five New Members

Twenty-five aplications for membership were accepted at the last meeting of the Executive Committee, as follows:

British Columbia—

Vancouver—Martin Senour Co., Limited, Paints and Varnishes.
Vancouver—Pride of the West Knitting Mills, Sweaters, Knit Goods.
Vancouver—J. R. Tacey & Son, Sheet Metal Workers.

Manitoba—

Winnipeg—Wakyte Mfg. Co., Limited, Trucks, Racks, Woodenware.

Ontario—

Arkona—Arkona Woollen and Knitting Mills, Yarn, Sheeting.
Burks Falls—Knight Bros. Co., Ltd., John H. Cole, Additional Representative.
Chesley—Chesley Woollen Mills Co., Tweeds, Blankets.
Hamilton—Canadian Porcelain Co., Ltd., Insulators, etc.
" —National Paper Goods, Ltd., Stationery, etc.
Mille Roches—Bennett & Messecar Co., Ltd., Pharmaceuticals.
Toronto—Consolidated Wafer Co., Ltd., Ice Cream Cones, etc.
Walkerville—Canadian Driver Harris Co., Ltd., Patterns, Castings.
Walkerville—Hartwell Bros., Ltd., Handles.
Welland—Union Carbide Co. Ltd., A. C. Morrison, Additional Representative.
Weston—K. & S. Canadian Tire & Rubber Co., Rubber Goods.
Weston—K. & S. Canadian Tire & Rubber Co., J. D. Murray, Additional Representatives.
Windsor—Windsor Pearl Button Co., Ltd., Buttons.

Quebec—

Megantic—Megantic Broom Mfg. Co., Ltd., Brooms, Clothes Pins.
Montreal—Colonial Art Works, Ltd., Silver Deposit Ware.
Quebec—Duchaine & Perkins, Boots and Shoes.
Sherbrooke—Walter Blue & Co., Ltd., Men's and Boys' Clothing.
Warwick—La Cie des Industries Cantin, Tweeds, Overcoatings.

Saskatchewan—

Regina—Crossen Metal Works, Ltd., Sheet Metal Products.
Saskatoon—A. L. Charlebois, Sheet Metal.
" —National Drug & Chemical Co., W. A. Jones, Additional Representative.

Royal Commission on Industrial Relations

A Royal Commission on Industrial Relations was created under Order-in-Council dated April 4th, 1919, with duties defined as follows:

1. "To consider and make suggestions for securing permanent improvement in the relations between employers and employees."

2. "To recommend a means for insuring that industrial conditions affecting relations between empolyers and employees shall be reviewed from time to time by those concerned with a view to improving conditions in the future."

For the above purposes the Commission was instructed:

1. "To make a survey and classification of existing Canadian industries."

2. "To obtain information as to the character and extent of organization already existing among bodies of employers and employees, respectively."

3. "To investigate available data as to the progress made by establishing Joint Industrial Councils in Canada, Great Britain and the United States."

Under Order-in-Council dated April 9th, 1919, the personnel of the Commission was announced as follows:

The Hon. Chief Justice Mathers, of Manitoba, Chairman.
The Hon. Smeaton White, a Member of the Senate, and Managing Director, Montreal Gazette Publishing Co., Montreal.
Charles Harrison, M.P., Railroad Conductor, North Bay, Ont., as representative of the Public.
Mr. Carl Riordon, President, Riorden Pulp and Paper Co., Montreal, Que., and Mr. F. Pauze, Lumberman, Montreal, as representatives of the employers.
Mr. T. Moore, Ottawa, President of the Trades and Labour Congress of Canada; Mr. J. W. Bruce, of Toronto, Member of the Labour Appeal Board, as representatives of the employees.
Mr. Thomas Bengough of Toronto, Secretary.

The Commission has aranged the following itinerary to cover the chief industrial centres throughout the entire Dominion:

British Columbia—April 28, 29, Victoria; April 30, May 1, 2, 3, Vancouver.
Alberta—May 5, 6, Calgary; May 7, Edmonton.
Saskatchewan—May 8, Saskatoon; May 9, 10, Regina.
Manitoba—May 12, 13, 14, Winnipeg.
Ontario—May 15, 16, Fort Wililam and Port Arthur; May 19, Cobalt; May 20, Sudbury; May 21, London; May 22, 23, Hamilton; May 26, 27, 28, Toronto.
Quebec—May 29, 30, 31, Montreal.
New Brunswick—June 2, St. John.
Nova Scotia—June 4, Halifax; June 5, New Glasgow; June 6, Sydney.
Quebec—June 9, Quebec City.

Representative manufacturers will appear at all sittings of the Commission.

The Brantford Resolution

The following resolution was passed at a public meeting held in Brantford on April 22nd:

That at this meeting, called to discuss the Tariff issues of Canada—

It is resolved that in view of the difference in interests existing in Canada to-day whereby the Western Agricultural classes urge the Government to the reducing of present tariff schedules on many commodities, and these views are largely opposed by manufacturing interests, with which interests the working classes are very closely allied.

And having in view the fact, that it is essential to find employment for a large number of workers lately released from many industries, and also to find employment for a large proportion of Canada's returning Army.

That in order to supply employment for these workers—it is necessary that every manufacturing plant, factory, or industry of any nature in Canada, should be kept in operation at fullest capacity during the whole period of reconstruction to avoid the danger of unemployment—and in order to carry on, and expand where possible, it is necessary that confidence in the stability of conditions be preserved.

And realizing that the various interests must recognize that the interests of each are inseparably bound up and are dependent upon the prosperity of the whole—and recognizing the injustice of one class seeking to benefit at the expense of another class.

We urge upon our representatives in Parliament the great importance of careful and wise handling by the Government of this Tariff issue.

And that no changes should be made in the tariff of Canada, until a Commission is appointed to investigate thoroughly and to revise and administer a tariff which will be equitable and just to all classes of the Country.

Professor McLennan's Address

An article, entitled " Science and Industry in Canada," by Professor J. C. McLennan, O.B.E., Ph.D., F.R.S., appeared in a recent issue of the "Journal of the Royal Society of Arts," London, England. Professor McLennan is head of the Physics Department of the University of

Toronto, and during the war has been one of the scientific advisers of the British Admiralty. His address is very comprehensive and indicates an extensive study of the natural resources of Canada and a number of manufacturing processes, particularly those of a chemical nature.

Arrangements have been made with the Royal Society of Arts to forward a copy of this address from London to all members of the Association. The Royal Society of Arts was founded in 1754 and incorporated in 1847. Its President is His Royal Highness the Duke of Connaught. Abbreviated extracts from the address appear elsewhere in this issue.

Progress on Trade Index

Work has been progressing on the new edition of the Canadian Trade Index, which has been authorized by the Executive Council. Copies have been made of the 7,000 forms containing the listings of the products of that number of manufacturing firms in Canada, and these are now being prepared for mailing.

A great deal of careful detail work is necessary to make a successful job of this really big enterprise. For instance, if a company has made a slight change in its name in the past three years and makes forty different articles, the old name has to be struck out in forty different and widely separated places in the old copy and the new name written in by hand.

Not only that, but all the records maintained in four different forms have to be carefully reviewed and corrected. It will readily be seen that, with the addition of new names, there is a great deal of laborious effort expended in the compilation of a book of this size and nature.

Athens Exhibition

The Federation of British Industries is holding an exhibition in Athens, Greece, from September 15th to October 15th next. The President of the Federation is Sir Vincent Caillard of Messrs. Vickers, Limited; and the General Secretary is Edmund L. Hill, 29 St. James Street, London, S.W.I.

All questions in connection with the exhibition will be dealt with by the Federation or its duly authorized representatives, whose decisions are final. Exhibitors and their staffs who will be at the exhibition must be of purely British nationality.

Items of Interest from the B.C. Branch

By H. DALTON
Secretary, British Columbia Branch

IN connection with the agitation on the part of the Grain Growers of Alberta, Saskatchewan, and Manitoba for I revision of the tariff, the following resolutions, recently adopted by the British Columbia Fruit Growers' Association and the United Farmers of British Columbia is of interest, as indicating a more reasonable attitude of this subject on the part of the fruit-growing and farming interests in this Province. The Fruit Growers' resolution reads as follows:—

"Whereas an extensive propaganda urging material reductions in customs duties with the avowed object of ultimately abolishing all such duties and the establishment of a policy of free trade, is being carried on by the organized farmers of the Provinces of Alberta, Saskatchewan and Manitoba, the objects and purposes of this propaganda being set forth in the platform adopted by the Canadian Council of Agriculture and endorsed by the organized farmers of the three Provinces named, and

"Whereas, the public announcements originating from these Associations, and representations made by them to the Federal Government convey the impression that the farmers in the western part of the Dominion are practically unanimous in support of such policy, and

"Whereas the impression thus created is not in keeping with the facts and it is important and necessary to the best interests of a large section of western farmers that such an impression should not be accepted by the Government and by the public;

"Therefore be it resolved, that we, the farmers of British Columbia as represented by the organizations named below, do not endorse or accept the tariff platform of the Canadian Council of Agriculture. That we protest against any tariff legislation in the interest of any one class or industry without due consideration of the welfare of others and the progress of the Dominion. That we favor the immediate appointment of a competent commission for the purpose of making a thorough investiation of the customs tariff with a view to preparing legislation that will best serve the interests and welfare of the whole nation;

"And be it further resolved that a copy of these resolutions be sent to each member of the Federal Cabinet, to organizations interested in tariff legislation, and that they be published in the daily press."

The resolution of the United Farmers of British Columbia is almost identical with the preceding resolution, except that the fourth and fifth paragraphs read as follows:—

Therefore be it resolved that we, the United Farmers of British Columbia, protest against any tariff legislation in the interest of any one class or industry without due consideration of the welfare of others and the progress of the Dominion. That we favor the immediate appointment of a Parliamentary Committee on which there will be a fair representation of farmer members for the purpose of making an immediate investigation of the customs tariff with a view to preparing legislation that will best serve the interests and welfare of the whole nation.

And be it further resolved that a copy of these resolutions be sent to each Member of Parliament of British Columbia, to each Member of the Federal Cabinet, to organizations interested in tariff legislation, and that they be published in the daily press.

Establishment of Department of Industries Resolution

The Legislature of British Columbia at their last session enacted a Bill entitled "The Department of Industries Act," creating a Department of the Civil Service in this province to be called the Department of Industries, and providing for the appointment of a Minister of Industries, who will be a member of the Provincial Executive; the Deputy Minister of this Department to be known as the Industrial Commissioner.

The powers and duties of this Department are set forth in the Act as follows:

"To provide for industrial research; to co-ordinate as far as possible all industrial investigation and research; and to collect and disseminate data emanating therefrom;

"To acquire and utilize in arts and manufactures the knowledge already existent in other countries;

"To carry out an economic survey of the natural resources of the province, and to furnish advice in regard to the best methods of utilizing such resources;

"To furnish advice with regard to the best methods for attacking industrial problems, for inducing industrial improvements, and for facilitating and encouraging manufacture in suitable localities;

"To co-ordinate various industries so as to obtain the best combined results and the exchange between user and manufacturer of manufacturing improvements and operating experience, and to bring together producer, manufacturer and purchaser;

"To publish technical, scientific and statistical information, and to encourage technical and industrial study by all possible means;

"To inquire and report on and aid in the establishment of any industries in British Columbia where it appears that such industries can profitably be carried on;

"To consider and initiate scientific researches in connection with or for the promotion of primary or secondary industries in the Province;

"To aid by loan, guarantee, or guarantee of securities on approved plans any enterprise calculated to encourage the economic and commercial manufacture of the natural resources or products of the Province;

"To consider and deal with plans submitted by representative bodies of returned soldiers of British Columbia for promating and providing for employment through the establishment of new industries and the development of existing industries;

"Generally for any other purpose calculated to promote the economic development of the Province."

The Act also provides for the creation of an Advisory Council, to be composed of seven members representatives of the financial, commercial, industrial, manufacturing and labor interests of this Province, to co-operate with the Minister of Industries and the Industrial Commissioner.

The Minister of Finance is empowered to borrow and ad-administer a fund of two million dollars for the carrying out of the purposes of this Act.

This piece of legislation will be considered at the next meeting of the executive of this branch, and it is hoped that this Association will be given representation on the Advisory Council referred to above.

Activities of the Maritime Province Branch

By H. R. THOMPSON
Secretary, Maritime Province Branch

A MEETING of the employers under the Nova Scotia Workmen's Compensation Act was called at Halifax, April 2nd, in an endeavor to organize an Accident Prevention Association as provided for under section 80 of the Compensation Act. Mr. C. D. Dennis, Representative of the Amherst Works of the Canadian Car & Foundry Co., Ltd., occupied the chair, and explained the urgent need of such an association. An exhaustive discussion ensued, which brought forth a motion that the meeting immediately proceed with the formation of an association as outlined.

The Secretary of the Maritime Branch presented a tentative set of constitution and by-laws, which was discussed clause by clause and with a few minor changes was later adopted as a whole. The constitution provides that each class or group under the Act shall have the right to representation on the executive committee, and thereby a voice in the affairs of the association. Provision has also been made for the formation of "sections" to take care of the work and to deal with the questions which are peculiar to the particular classes or groups under the Act. A "section" shall comprise only the employers in the trade, industry, group, class or sub-class represented by such "section." A "section," when properly organized, shall have the power to make rules and regulations, which, when approved by the General Executive Committee and the Compensation Board, shall be binding on all the employers in the industries represented by such "section."

The intention is that the expenses of the Association shall be paid from the accident funds set up under the Act, and charged to the account of the proper group, class, or sub-class.

The officers, who were appointed, were as follows:—

President—C. D. Dennis, Canadian Car & Foundry Co., Amherst, N.S.
First Vice-President—G. D. Macdougall, Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Second Vice-President—F. E. Lucas, Dominion Iron & Steel Co., Sydney, N.S.
Secretary-Treasurer—H. R. Thompson, Canadian Manufacturers Association, Amherst, N.S.
Executive Committee: Class 1: Mining—A. J. Tonge, Dominion Coal Co., Sydney, N.S.; Class 3: Lumber and Woodworking—Rufus E. Dickie, Stewiacke, N.S.; Class 5: Iron and Steel—R. B. Stewart, Mar. Bridge Co., New Glasgow, N.S.; Class 6: Miscellaneous—Chas. Monaghan, Moirs, Limited, Halifax, N.S.; Class 7: Building Construction—A. S. Curry, Rhodes Curry Co., Ltd., Amherst, N.S.; Class 8: Public Utilities—J. H. Winfield, Maritime Telegraph & Telephone Co., Halifax, N.S.; Class 9: Transportation and Navigation—G. W. C. Hensley, Pickford & Black, Halifax, N.S.

Development of N.S. Water Powers

A Hydro-Electric Commission, along the lines of the system that has obtained in Ontario, is announced as the latest innovation in the programme of the Nova Scotia Government. To this end two Bills, one respecting the development of electric power from water resources and the other respecting water and water courses, were recently introduced in the Provincial Legislature by Attorney-General Daniels. All the water-power resources of the province belong to the Crown, but in order to make the older act conform with the provisions in the new bill, and so make way for the Governor-in-Council, by legislation, to appoint a Hydro-Electric Commission, the bill respecting water and water-courses in the province will have to be passed. The new bill respecting the development of electric power from water power will come up for its first reading immediately after the Easter holidays, and it is the intention of the Attorney-General to explain its provisions and also to review the history of the Hydro-Electric Commission in Ontario.

Development of N.B. Water Powers

Premier Foster introduced a bill, in the New Brunswick Legislature, entitled "An Act for the development of Water Powers of the Province." In explanation of the bill, he said the Government had some time ago appointed a Commission to look into the matter of water powers, and a survey of a number of possible developments had been made. It is the intention to extend the investigation throughout the entire province, and it is hoped in time to learn where all water powers are located, what locality or industry they could serve and what industry they might attract. After these facts had been ascertained the problem would be to develop them along systematic and business-like lines. The Premier stated he was not in favor of municipal or Government construction and operation of water-power plants, as such had not worked out satisfactorily in the past, and he believed that it had been fully demonstrated that development could not be accomplished in a manner as economical and business-like as by a private company. He is in favor of private construction and private operation, assisted financially by the Government in order that securities for such development should be floated and the money obtained at the very lowest possible cost, and which assistance when given, must be given with a measure of control and a goodly share of the profit arising therefrom reverting to the people.

Clause 6 of the bill empowers the Commissioners to declare at any time by order in writing, that it was in the public interests that any water course or any part thereof should become vested in the Crown, and provision is made for proper compensation in that connection.

The bill provides that where any person or corporation should place before the Lieutenant-Governor in Council a concrete business proposition for the development of water power and can satisfy the Lieutenant-Governor in Council as

to the financial ability of the person or corporation, and should it procure a certificate of a hydro-electric engineer of standing approved by the Commission, the Government can assist such person or corporation by guaranteed bonds up to an amount not in excess of three-quarters of the cost of such development.

It is proposed that the company shall be controlled by an issue of stock divided as follows: Forty-nine per cent. remaining in the right and name of the province, forty-nine per cent. in the right and name of the company, and the remaining two per cent. it is proposed shall be placed in the hands of the public utilities commission, to be voted by that body upon any question which might arise between the Government and the company. In this way the Government would retain full control. It is also proposed that the water power commission shall be on the directorate of the company and thereby protect the interests of the province.

The Premier does not claim that the bill, which he presented for the consideration of the Legislature, would guarantee the development of the water powers, but a trial could be made. The provisions are novel and further progress, if any, will be watched with interest.

Labor Demanding Eight-Hour Day

The Nova Scotia Federation of Labor passed a resolution to the Local Government some weeks ago demanding an eight-hour day, forty-four hour week. Following this, a delegation of the Maritime Branch waited on Premier Murray in an endeavor to impress upon him the fact that, if such a measure should become law in Nova Scotia and not in the other provinces, it would tend to act as a disadvantage against the industries of this province, in competition with the industries of the other provinces.

At a late meeting of the Cape Breton labor bodies, a resolution was passed threatening a general strike throughout the province on July 1st if such an Act is not passed to come into effect before that date. It has not yet been decided what further action the employers will take.

Amendments to Workmen's Compensation Acts

The Government has brought in a bill with a number of amendments to the Nova Scotia Compensation Act. The most important change is the addition of "medical aid," the provisions of which are similar to the Ontario Act.

The New Brunswick Government has decided to bring the lumbermen under the Compensation Act. Heretofore the mill operations only have been included, but it is now proposed to bring in the logging operations as well.

Miscellaneous Legislation

The Nova Scotia Government has introduced a bill in the local Legislature entitled "The Fair Rent Act." The bill is intended to control the rents being charged for houses occupied by the working class. A Housing Bill has also been introduced to take advantage of the federal housing grant. A bill entitled "An Act to provide for an enquiry respecting Hours of Labor of Women employed in Industrial Occupations, and other matters relating to such Employment, and respecting Mothers' Pensions or Allowances" has also been introduced in the N.S. Legislature.

A bill to amend, extend and consolidate the New Brunswick Factories Act has been introduced into the N.B. Legislature. The novel feature of this bill is that the Administration of the Act is to be in the hands of the Workmen's Compensation Board.

April Activities of the Toronto Branch

By H. MACDONALD
Secretary, Toronto Branch

THE permanent Standing Committee composed of the C.M.A., G.W.V.A., and other representatives has prosecuted its work along new lines during the past month by formulating a Repatriation Campaign, for the purpose of raising $1,500,000—$400,000 of which it is proposed to devote to the Associations of Veterans. Five club houses are to be built in Toronto, and this undertaking is to be managed by a board of trustees constituted as follows: The Mayor of Toronto, the Finance Commissioner, the Works Commissioner, the Property Commissioner, the City Solicitor, the President of the Board of Trade, the President of the Trades and Labor Council; Chairman, Local Branch, C.M.A.; Chairman of the Repatriation League, and five veterans to be named by the Executive Committee of the Repatriation League.

The plans for the maintenance and internal management and control of the club houses are to be determined by the Executive Committee of the Repatriation League, the club houses being for the benefit of all the veterans in Toronto.

An excellent plan has been to unite with the G.W.V.A., the Repatriation League, the Y.M.C.A. and the Community Service Federation, to conduct a combined campaign for the carrying on of the excellent work of the respective organizations, instead of dissipating their energies by four separate attempts to raise the amounts they each need.

Soldiers' Vocational Training

At a recent conference of the Business Council of the Citizens' Repatriation League with the representatives of the G.W.V.A., the question of uniformity in the practice of employers in paying returned soldiers while under vocational training was considered. The G.W.V.A. representatives advanced the suggestion that during the first six months of training with an industry the amount which the employer is willing to pay should be placed to the credit of the employee and used during the second period of six months in bringing the employee's salary up to the standard for 100 per cent. efficient man, should the employee in question not have reached that standard. The Executive Committee directed that a meeting of manufacturers employing two or more returned men in vocational training should be convened on an early date, with a view to adopting some concerted and uniform practice in the matter.

Iron and Steel Founders

At the request of members of the Association, the Toronto Branch Executive convened a meeting of foundrymen and machine shop owners of Ontario, in the Assembly Hall, Board of Trade, on 7th current, for the purpose of discussing the question of proposed shorter hours and higher rates, in consequence of a new schedule having been presented by the Metal Trades Council. All the proposals advanced received careful consideration, and it was agreed that it was quite impossible under existing conditions to accept. That decision was reached in what was considered to be in the best interests of the industries involved, including both employees and employers and the nation as a whole. The employers have no control over the market, but must bid in keen competition for any business they secure with similar businesses in other

parts of Canada, United States, Great Britain and other countries. It must be clear, therefore, that if our costs are higher than the costs of those in competition with us, we stand small chance of securing such business, and we believe it can be shown that a good deal of business has passed by this community already, because of the present high cost. If this is true, it means that much of the present unemployment is due to high labor costs.

The Employers' Association of Toronto has formulated a reply to the union, on behalf of the employers.

War Memorial

The Toronto Branch Executive at its last meeting considered the question of a War Memorial. It is felt that the efforts of all interests should be concentrated in one War Memorial which will have dignity, beauty and greatness, and be so imposing that it will impress even the casual observer. Co-operation is necessary to prevent indiscriminate expenditure and to adopt a scheme that will be generally acceptable. In view of the importance of the matter, the committee agreed to present it for discussion at the forthcoming Annual Meeting of the Branch on 15th of May.

Postal Clerks' Association

The Toronto Branch Executive, through our Ottawa Office of the Association, presented representations to the Postmaster-General in reference to a threatened strike of the post office employees, and it is gratifying to know that the Department agreed to a conference of the postal employees in Ottawa, when it is hoped all differences will be adjusted.

"Welfare" Work

The committee appointed at a recent conference to report on "Welfare" work visited the factory of Messrs. The Williams, Green & Rome Co., Limited, Kitchener, on April 8.

The committee was much impressed with the architectural features of the factory, while the internal arrangements and staff organization presented a general appearance of order, discipline and efficiency, showing that under the "Welfare" plan worked out by Mr. Williams, the largest possible measure of co-operation between employers and employed was being obtained. A feature of the organization in this factory is the latitude allowed the employees to work out plans on their own account without undue interference by the management.

Notwithstanding that there is a well-equipped library in the town, the factory library is being regularly used and appreciated. While due consideration has been given to the working conditions in the factory, special attention has also been given to facilities for recreation and amusement. A well-equipped kitchen and dining-room has also been provided, in charge of the employees, which has been managed to the entire satisfaction of the directors. An open-air arena on the top of the building is used for recreation and amusement purposes, which is specially appreciated in the heat of summer.

After luncheon, which was served in the employees' dining hall, Mr. Williams welcomed the delegation, referring to the success attained by "Welfare" and stating that any sacrifices already made or to be made, would be repaid tenfold. They were not antagonistic to labor, and they invited other industries to follow the course successfully pursued by themselves. Their factory had been built up by co-operation between employers and employees.

Mr. Roden moved a vote of thanks to Mr. Williams for the reception accorded the delegation. All felt that the factory was permeated by a healthy atmosphere. The employers formerly did not think it was possible to cultivate the now happily existing amicable relations between employers and employees. The present serious situation with which industry is confronted could only be successfully met by co-operation, not only between employers and employees but also between the farmer and the manufacturer, the cause of apparent differences in the past arising from ignorance of each other's problems. Messrs. McIntyre, Monypenny, Harris and Harding also expressed their pleasure at the appearance of harmony prevailing in the factory.

Mr. W. J. Roberts spoke on behalf of the employees, after which Mr. Williams thanked the speakers, stating that while Canadians were now noted as fighters, he would like the manufacturers to be distinguished as pioneers for the betterment of labor.

The committee directed that "Welfare" as the solution of labor unrest, should be made the subject of discussion at the forthcoming Annual General Meeting of the Branch on 15th of May next.

Daylight Saving

At the monthly meeting of the Executive Committee, held on 22nd of April, it was reported that a request by the Branch Executive to the Mayor to publish a proclamation in favor of renewing daylight saving had been promptly adopted by His Worship. It is indisputable that the majority of workers in factories, offices and stores want the extra hour of daylight, and the fact that the railways were intent on adopting the new time, furnished a strong argument for making it general.

Tariff

At a Special Meeting of Toronto Branch Executive, held on 17th current, the following resolution was unanimously adopted:

"That this meeting of the Executive Committee of the Toronto Branch Executive of the Canadian Manufacturers' Association recommend to the Executive Committee that a petition addressed to the Dominion Government opposing any interference with the tariff at the present session of parliament, be sent to all the manufacturers in Canada for signature by their employees—such petition to be transmitted by the manufacturers to respective members of parliament in each Riding for submission to the Acting Premier."

The committee felt that as regards the removal of the special war tariff, members of parliament might safely be left free to exercise their own judgment but that it should be made clear that any parliamentary representative would forfeit the confidence of his constituent, if he voted for any measure that seeks to preserve Union Government by sacrificing the interests of those who have invested their money or who work in Canadian industries.

Royal Ontario Museum of Archæology

The Toronto Branch Executive Committee considered a proposal by a joint committee representing various city organizations to open the Royal Ontario Museum on Sunday afternoons. Many citizens, whose employment engages them six days a week have no opportunity of visiting this institution except on Sunday. Nothing can be more elevating or instructive than an examination of antiquities, treasures and works of art and craft.

The opening of the Royal Ontario Museum on Sunday afternoons will enable every citizen to benefit by it, and it will be of much greater value to the industrial community through its exhibits of the development of various industries and suggestions for designs, etc., particularly during the reconstruction period through which we are passing.

Canada's Participation in the Lyons Fair

The Canadian Section one of the Outstanding Features of the Event—Scope of the Exhibits Made by Canadian Manufacturers—Results of the Exhibition—Some of the Difficulties Encountered and Steps Taken to Clear Them Up

By W. P. HUGHES

Secretary Montreal Branch, C.M.A., and Secretary Grand Committee Canadian Exhibitors



Entrance to the Canadian Section

Sir George E. Foster, Minister of Trade and Customs, may be observed standing in the centre of the picture

CANADA'S bid at the 1919 Foire de Lyon for recognition by European buyers as a producer of peace-time manufactured goods that rival the best to be obtained elsewhere, was a decided credit to the country at large, the Government of Canada, and the fifty-six participating Canadian manufacturers.

Situated in the very heart of the city, occupying a prominent corner in the open square known as "Place Bellecourt," attracting the attention of all who passed with its arches depicting Canadian industrial life, the Canadian section was acknowledged by everyone to be one of the most outstanding features of the fourth great Industrial Fair held in the beautiful City of Lyons, in southern France, during the first two weeks of March, 1919.

The section was made up of 72 booths, 36 on each side of the street that, early in the fair, became known as "L'Avenue Canadienne."

The official Canadian Government exhibits, including those of the National Railways, the Departments of Trade and Commerce, Forestry, Mines and Agriculture, occupied 15 booths in the centre on one side, while the impressive advertisement of the Canadian Pacific Railway was directly opposite, covering the space of 8 booths.

Further deducting the booths occupied as offices by the Canadian Government and the Canadian Manufacturers Association, and that utilized for a most attractive display by the Canadian Red Cross, 46 booths were left in which Canadian manufacturers exhibited their products according to their individual ideas of effectiveness. A neat uniform scheme of decoration proved a serviceable background for most of these displays, though in some cases it was replaced by a more individual decoration designed to show off to better advantage a particular line of goods. The general effect was most noteworthy.

Entering "L'Avenue Canadienne" from one of the main arteries of the city, the buyer first met with the concrete mixers and pumps of the London Concrete Machinery Co., of London, Ont., and probably paused to join for a moment the crowd that seemed never tired of watching the pump from which a continual flow of water fell into a small tank that never filled. The barn equipment of Beatty Bros., Fergus, Ont., and the hoisting engine of the Marsh Engineering Works, Belleville, Ont., would next engage his attention, while farther down the street he would see the asbestos roofing of the Asbestos Mfg. Co., Montreal; the agricultural machinery of the Frost & Wood Co., Ltd., Smiths Falls, Ont.,



Representatives of Canadian Firms at the Big Fair at Lyons

and of the Tudhope-Anderson Co., Ltd., Orillia, Ont., as well as the car wheels of the Canadian Car & Foundry Co., Ltd., Montreal.

If he had come looking for what Canada had to offer in the line of building materials and tools, he found admirably displayed the metal panels and roofing of the Pedlar People, Ltd., Oshawa, and of the Metallic Roofing Co. of Canada, Ltd., Toronto; the asbestos roofing and sheathing of the Asbestos Manufacturing Co., Montreal; the hardwood flooring of the Seaman, Kent Co., Ltd., Toronto; the lumber and lumber products of the Georgian Bay Shook Mills, Ltd., Midland; the sanitary woodenware of the Goderich Organ Co., Ltd., Goderich, Ont.; the wallboard and stucco house models of the Bishopric Wall Board Co., Ltd., Ottawa; the portable house models of W. H. White, Montreal; the electrical supplies of the Duncan Electrical Co., Ltd., Montreal, and of McKinnon Industries, Ltd., St. Catharines, Ont.; the builders' hardware of Taylor-Forbes Co., Ltd., Guelph; Canada Foundries & Forgings, Ltd., Welland, and Richards Wilcox Canadian Co., Ltd., London. If he was looking for house furnishings he found the enamelware of the McClary Mfg. Co., Ltd., London, Ont.; the tinware of the E. T. Wright & Co., Ltd., Hamilton; the stoves and ranges of the Hamilton Stove & Heater Co., Ltd., Hamilton, and McClary Mfg. Co., Ltd., London; the bent wood furniture of the North American Bent Chair Co., Owen Sound, Ont.; the woodenware of the Wm. Cane & Sons, Ltd., Newmarket; the washing machines of Maxwells, Ltd., St. Mary's, and of Beatty Bros., Fergus, Ont.; the sewing machines of the White Sewing Machine Co., Ltd., Guelph; and the pianos and talking machines of the Amherst Pianos, Limited, Amherst, N.S. For interior decorations he might find the beautiful wall paper of Stauntons Ltd., Toronto, and for both interior and exterior work the paints and varnishes of Brandram-Henderson, Ltd., Montreal, and the white lead and lead products of the Pacific White Lead Co., Ltd., Vancouver, B.C. The paint brushes, brooms and whisks of T. S. Sims & Co., Ltd., Fairville, N.B., would also attract his attention in this connection.

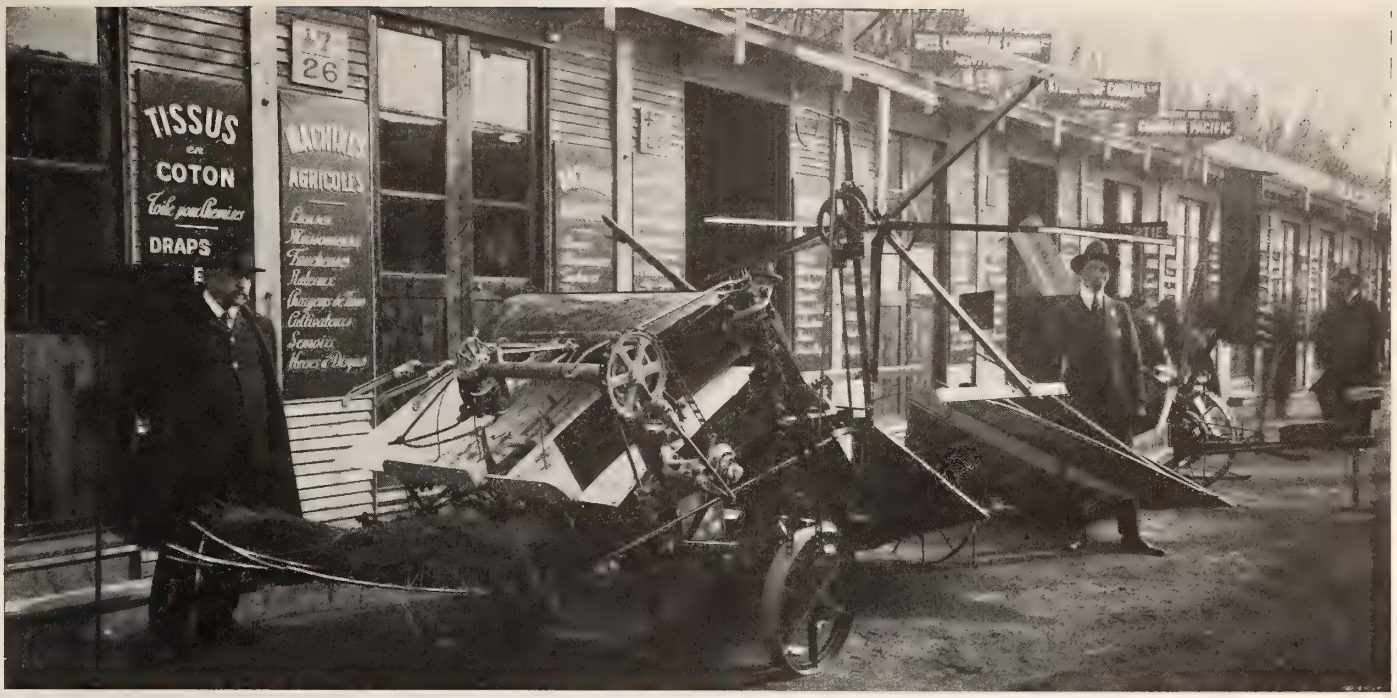
If interested in hand tools and machinery he found the edged tools and hand agricultural implements of the Welland Vale Mfg. Co., Ltd., St. Catharines; the hammers, wrenches, etc., of the Canada Foundries & Forgings, Ltd., Welland; the lawn mowers, tree pruners and post-hole diggers of Taylor Forbes Co., Ltd., Guelph; the farming implements and lawn mowers of Maxwells Ltd., St. Mary's, and the steamfitters and machinists' tools of Pratt & Whitney Co. of Canada, Ltd., Dundas, Ont. If his search was for heavier agricultural machinery, there was in addition to those of the Frost & Wood Co., Ltd., and the Tudhope-Anderson Co., Ltd., already mentioned, the extensive display of the Massey-Harris Co., Ltd., Toronto.

Railway car models and brake beams were on exhibition for him by the Canadian Car & Foundry Co., Ltd., Montreal; iron and steel products by the Steel Co of Canada, Ltd., Montreal; enamelled baths and basins by the Amherst Foundry Co., Ltd., Amherst, N.S.; emery wheels by the Dominion Abrasive Wheels Co., Ltd., New Toronto; electrical wire and cable by the Canada Wire & Cable Co., Ltd., Toronto; chains, saddlery and carriage hardware by the McKinnon Industries, Ltd., St. Catharines; carriages by Carriage Factories, Ltd., Toronto; leather by Beardmore & Co., Ltd., Toronto, industrial alcohol by the Canadian Industrial Alcohol Co., Ltd., Montreal; wood chemical products by the Standard Chemical Iron & Lumber Co., Ltd., Toronto; metal chemical products by the Metals Chemical Ltd., Welland, and wax paper by the British American Wax Paper Co., Ltd., Toronto.

Exhibits of Food Products

If Canadian food products had brought him to the section, there was the condensed milk of the Laing Produce & Storage Co., Ltd., Brockville; the macaroni, canned vegetables, fruits, jellies and jams of the Dominion Canners Co., Hamilton; the canned and dried fish products of the Maritime Fish Corporation, Montreal; and last, but by no means least, there were the chocolate and chocolate products so temptingly offered by Neilsons Ltd., and Willard Chocolates Ltd., both of Toronto.

For clothing and kindred needs he found most attractively set out the fabrics, shirtings, sheetings and longcloths of the Dominion Textile Co., Ltd., Montreal; the boots and shoes of Daoust, Lalonde & Cie., Montreal, and Legacé & Lepiney, Quebec; the rubber goods of the Canadian Consolidated Rubber Co., Ltd., Montreal; the shoe polishes of the Canadian



An Exhibit of Canadian Implements at the Lyons Fair

Shoe Polishes & Findings Co., Ltd., Hamilton, and the shaving brushes of the T. S. Simms & Co., Ltd., Fairville, N.B.

In the Canadian Government booths visitors were shown characteristic scenes along the Government railways, excellent specimens artistically arranged of Canadian fruits, grains and grain products, flax, meats, canned foodstuffs, woods, minerals and panoramic views of Canadian industries, fisheries and cities. In the Canadian Pacific Railway exhibit they were conducted by meaans of cleverly constructed mechanical models, in the light of day, the twilight of evening and of early dawn, past the busy port of Fort William, with trains and boats coming and going and ships loading grain at the elevators, and through the Rocky Mountains, whose majesty and grandeur, so skillfully suggested, never failed to arouse expressions of delight and admiration. Many transparencies depicting views of Canadian cities, industrial plants, C.P.R. hotels and beauty spots in Canada's natural scenery set off in frames of young birch and surrounded by Western grasses completed a most artistic and impressive advertisement to which thousands of visitors flocked during the two weeks of the Fair.

In the Lyons Fair section of the *London Times*, issued on March 22nd, untimo, this statement appears: "The Canadians have had more advertising in France than any other foreign nation." But if this be true (and without exaggeration it can be said that this opinion is but a reflection of an achievement conceded to Canada by all who visited the Fair) it should be noted that the publicity gained by Canada was not born of mere chance, but was the well-earned result of careful plan and hard work. Sir George E. Foster, the Canadian Minister of Trade and Commerce, early laid his plans to this end and energetically carried them through. Sufficient money was made available for making the Canadian section itself attractive and distinctive, moving picture films illustrative of Canadian farm and industrial life were shown without charge to the people in Lyons. A Canadian military band, during the second week, gave daily concerts on a specially-constructed platform just outside "L'Avenue Canadienne." But co-ordinating and making effective these factors of publicity was the work of Sergeant Rankin, to whom Sir George Foster committed the task of keeping the public informed as to Canada's activities at the Fair through the medium of the newspapers. Sergeant Rankin proved to be a most successful Director of Publicity. His bright, interesting descriptions of from-day-to-day developments at the Fair from a Canadian viewpoint were no doubt the immediate cause of much of the prominence that was enjoyed by the Section Canadienne. A conservative estimate of the free space thus secured to Canada in the leading French and British papers was made at the close of the Fair and it totalled some thirty thousand dollars at the ordinary advertising rates. It can safely be said, therefore, that Canada's participation in the 1919 Lyons Fair, viewed as a publicity campaign, was an unqualified success and will lead to great benefits being derived by Canada therefrom.

Little Immediate Business

As a means of securing orders for Canadian manufacturers, however, it must be stated at once that many conditions combined to make the effort unproductive of immediate business, though it would indeed be foolishly shortsighted to measure the business resulting to the participating manufacturers by the actual amount of orders taken during those two weeks. To begin with, economic conditions in Europe, but more especially in France, were as bad as at any time during the war, and this general condition hung like a cloud over the Fair. The absolute necessity that obtained during the war for the continuous importation of a great many different lines of manufactured articles was no longer present, for with the signing of the armistice it became possible and profitable to economize in this respect and this is what France set out to do. It may be true that the uncertainty as to what the exact nature and amount of the financial help for reconstruction purposes to be secured to France as a result of the peace deliberations has had some influence and it may be equally true that a satisfactory settlement may alter the attitude of her Government, but certain it is that the French policy with which Canadian manufacturers at the Lyons Fair found themselves confronted was one of exclusion of the foreigner. Late in January the French Government had enacted most strin-

gent import restrictions which proved to be a barrier hard for foreign exhibitors to overcome. As a consequence Canadian manufacturers were more or less in the regrettable position of being on the ground with goods that in most instances might have found ready sale in large quantities but of being unable to negotiate those sales on account of this wall between buyer and seller. An indication of what would have assuredly been the result under more favorable conditions is afforded in the fact that approximately two million dollars' worth of goods were sold even under conditions as they were. If some workable arrangement can be effected between the French Government and our own, nearly every Canadian manufacturer who was at the Fair will profit by the venture. The possibility of such an arrangement seems to depend very largely on the attitude which the French Government will adopt subsequent to the announcement of the peace terms.

At present the French policy is dictated by two considerations: First, the unfavorable trade balance under which France is laboring and the consequent need of preventing French exchange from falling further by the extension of her indebtedness to foreign countries. Second, the protection of French industry underlying which idea is the attitude, that as it is French territory that has suffered through the invasion, it is only fair that it should be French people who should have the opportunity of making whatever can be made out of the reconstruction work, even though this may entail otherwise unnecessary delays. Whether or not this attitude will be modified by the peace terms remains to be seen, but on the other hand it is perfectly plain that France will have of necessity to call upon the foreigner for a certain quantity of materials and a certain number of tools, and the manner in which this business is to be transacted is also fairly well indicated by present tendencies. This tendency is toward Government control if not by Governmental agencies themselves. One thing seems certain and that is that individual commercial houses in France will be able to do very little in connection with the placing of orders with foreign companies for reconstruction materials. All tools, machinery and constructional materials will remain subject to the granting of import licenses, and these licenses will not, except in rare instances, be granted to private firms. Orders will be lumped and the negotiations carried on by Government or quasi-government commissions. A number of such have already been formed, some representing particular industries or branches of the building trade, and others representing various districts of the devastated areas, and it appears very likely that firms that are allotted building contracts or repair work in the devastated districts will have to apply to these committees for the materials needed from abroad, and that it will only be on their recommendation, and perhaps through their agency if not through their action as purchasing bodies, that such materials will be imported. This will mean business negotiated through Governmental agencies, and it is in this connection that our Canadian Trade Mission will, no doubt, prove most valuable to Canada.



Headquarters of the Canadian Manufacturers Association

The C.M.A. office on the left of the picture adjoined the offices of the Canadian Government and the Canadian National Railways

It should not be concluded from what has been said that all or even a majority of the Canadian manufacturers who attended the Lyons Fair regretted their outlay, for, as has already been stated, orders amounting to the sum of two million dollars were booked and most valuable connections, in many instances, were established with buyers from various countries. Quite a number expressed their entire satisfaction at the visible results they attained, while most of them were of the opinion that the eventual business they would secure as a result of the Fair would remove any disappointments attendant upon the Fair itself.

One of the first things that the Canadian representatives did on arrival at Lyons was to organize themselves into a Grand Committee for the consideration of matters in connection with the Fair that might be of common interest. Colonel L. W. Marsh of the Marsh Engineering Works, Ltd., Belleville, was chosen as chairman, and the writer as secretary. Daily meetings were held in the Canadian Manufacturers Association booth, which were constantly attended by most of the exhibitors. Opportunity was thus afforded for the lively discussion of the unfavorable conditions above outlined as well as of many matters in connection with the Fair itself. Concerted action was taken by this body with regard to such questions as the French import restrictions, the obtaining of exact information as to French customs, regulations and prevailing trans-Atlantic freight rates. Provision was also made by it for the entertainment of the ladies who had come with members of the committee, the gathering of information as to regulations governing passports, the distribution of samples, etc., etc. One of the most important steps taken was the appointment of representatives to an all British exhibitors' committee which latter body collected the deliberations of the several smaller groups and submitted a joint statement at the close of the Fair to the Lyons Fair Board of Management. These recommendations dealt with aspects of management which British exhibitors felt could well be improved. The many difficulties under which the 1919 Fair was conducted were fully appreciated, and it was made plain to the Management that the criticisms offered were offered in a spirit of co-operation and with the sole desire to see the Fair as productive of large values as possible.

The principal suggestion thus submitted related to the clear determination of the Fair's status with the French Government as an International Exhibition. This year there

was an apparent lack of co-operation on the part of the French Government, and many minor difficulties of travel, transportation of freight, customs regulations, etc., etc., as well as the larger questions of French trade policies reflected this fact. Other suggestions took up aspects of internal management such as the unalterable adherence to the advertised dimensions of booths, the completion and furnishing of booths sufficiently in advance of the opening day of the Fair to enable exhibitors to set up their wares and be ready for business on the announced date. The control of prices chargeable by contractors, adequate facilities for the handling of heavy goods, the careful editing of the Official Catalogue and the promptness of its publication, a more energetic propaganda among the buyers of different countries and the supply to exhibitors of an advance notice of buyers who might be expected at the Fair constituted the more important remaining topics of discussion in this report. Two requests of sole interest to British Empire exhibitors were appended to the above. These were that the Fair management should in future provide for an All British Empire Section in which manufacturers from the different parts of the Empire might gather, and that necessary space in the Official Fair paper be supplied free of charge for the publication in English of notices and other items of general interest to British exhibitors. The Management were given to understand that a permanent British Empire Lyon's Fair Committee was to be shortly formed, with headquarters in London, Eng., and that if the proper spirit of co-operation were shown by the former, the latter body would do all in its power to encourage the attendance of British Empire manufacturers at future Fairs, but it was also hinted that failing this co-operation some other means might be evolved by which British manufacturers could accomplish what was expected by attendance at such a Fair. This British Empire Lyons Fair Committee has since the Fair become a reality and it can be expected to deal with these questions energetically and to be a source of much helpfulness to all British Empire manufacturers who are interested in future Fairs.

Sir George Foster, accompanied by Mr. Lloyd Harris and Hon. Philippe Roy, Canadian General Trade Commissioner in Paris, visited the Canadian section at Lyons on March 12th and 13th. This visit marked the culminating point of Canada's prominence at the Fair. After a booth-to-booth inspection by the Minister and his party, in which the manufacturers were given an opportunity of discussing with him the probable business opportunity thus afforded them by the Fair, a meeting was held which was attended by all and in which Sir George took up the various difficulties under which the exhibitors were laboring. A hearty vote of thanks was tendered him at the close of his remarks which had helped so much to dissipate the dissatisfaction felt by some of the exhibitors.

The Official Banquet

In the evening the official Canadian banquet was held. This function was a marked success. Seldom has Sir George Foster been heard by Canadians to better advantage. Speaking first in French and then in English, his wonted eloquence held his audience's close attention for an hour, and his conclusion was the signal for an outburst of enthusiastic applause. Senator Ed. Herriot, Maire de Lyon, preceded the Minister, in an address which was a gem of oratory. Those Canadians who could understand French heard eloquence the quality of which is passing rare. No account of Canada's participation in the 1919 Foire de Lyon would be complete which did not pay tribute to the great assistance rendered all through the undertaking by the C.P.R. On this side of the water the services of Mr. E. N. Todd, General Freight Agent, in collecting and forwarding the freight to the Atlantic seaboard could not well have been dispensed with. It is a creditable thing that not one piece of the many hundreds composing the exhibits failed to arrive at St. John in time to be forwarded by the special boat which had been arranged for. The passenger agents in Liverpool, London and Paris spared no effort to make the journey of the Canadian representatives pleasant and unhampered. At the Fair itself, Mr. E. R. Bruce, Director of Exhibits for the C.P.R., was given full charge by the Minister of Trade and Commerce of the installation of the Canadian exhibits, and his untiring efforts largely accounted for the successful nature of Canada's showing.

Canada's Implement Industries

Preliminary Census just Completed by the Bureau of Statistics at Ottawa Shows Big Expansion in Two Years

The Dominion Bureau of Statistics has completed a preliminary census of the agricultural implement industry in Canada for the calendar year 1917. The census covered altogether ninety establishments. These were located in the provinces as follows: Alberta, 1; Manitoba, 7; Nova Scotia, 1; Ontario, 56; Prince Edward Island, 1; Quebec, 21; and Saskatchewan, 3.

The total capital invested amounted to $70,493,801, divided as follows: Land, buildings and fixtures, $13,381,463; machinery and tools, $6,140,082; materials on hand, stocks in process, finished products, fuel, etc., $23,127,626; cash, trading and operating accounts and bills receivable, $27,844,630. The total capital invested represents an increase over 1915 of $10,964,710, or of 18.4 per cent.

The total salaries paid in 1917 amounted to $1,329,736, an increase over 1915 of $273,938, or of 25.9 per cent. The total wage payments rose in 1917 to $8,027,036 from $3,125,066 in 1915, or by 156.8 per cent. The average amount paid to wage-earners in 1917 was $838. The total number on salaries in 1917 was 10,131, having risen from 6,737 in 1915. The average number of wage-earners employed monthly in 1917 was 9,563; the least number was 9,003 in September; the greatest number was 10,027 in December. The total number of different individual wage-earners on the payroll in 1917 was 24,895. From a total summary of 10,051 wage rates, it was found that 1,118 were paid from $12 to $15 a week, 4,271 from $15 to $20 a week, 2,033 from $20 to $25 a week, and 1,163 at a rate over $25. The balance were paid at a rate below $12 a week.

The total cost of materials used in 1917 amounted to $15,599,651, being an increase over 1915 of $9,616,451, or of 160.7 per cent., and the total value of products rose from $13,372,506 to $32,364,340, or by 142.0 per cent. The net value of products, or the value added by manufacture, was $16,764,649 in 1917; in 1915 it amounted to $7,389,270. The net value is found by subtracting the total costs of materials used from the total value of products.

Work of the Canadian Mission in London

Functions of the Commission Explained—Some of the Results Already Secured—Recommendations Made by the Commission to Canadian Exporters—A List of Ten Things that Should be Avoided

By R. J. YOUNGE

Secretary, Canadian Mission, London

THE Canadian Mission in London has been established with two special objects in view, namely, (1) To make proper representations to European countries with respect to materials and merchandise that Canada can supply for the purposes of reconstruction, and (2) To increase the interchange of trade between Canada and the other portions of the British Empire.

The first of these objects is being accomplished through direct negotiations with the Governments of France, Belgium, Italy, Roumania, Serbia and Greece, and will eventuate in the supplying of large quantities of Canadian products to these countries against credits to be established by the Canadian people. It may safely be stated that under no other terms or conditions could Canada secure reconstruction orders since competition regulates trade to-day even as in pre-war times; and this plan serves the double purpose of enabling Canada to take her part in satisfying the urgent needs of suffering Europe, as well as helping to sustain the industries of her farms, her mines, her forests and her factories through the very difficult transition period from war to peace.

The second of these objects provides an organization at the centre of the British Empire to which Canadian producers of all kinds may look for advice and assistance in marketing their products within the Empire—and chiefly in the United Kingdom. It also provides a source of information and advice for British business firms who wish to market their products in Canada, or to open up in the Dominion branches for manufacturing or sales.

Immediate Results

How well the Canadian Mission in London has so far performed its functions is evidenced by the following facts: (1) Initial credits have already been arranged by Canada with Belgium, Roumania and Greece; (2) The British Government has removed the import restrictions against shipments of Empire origin, and (3) Hundreds of Canadian organizations and firms can testify to having received practical advice and co-operation which has led to the consummation of business.

Only those who have had the experience of calling upon the Canadian Mission in London can appreciate the enormous demands made upon the organization and the tremendous difficulties under which its officials have been working; while only the officials themselves have any adequate idea of the variety and extent of the problems which come before them for solution. Many Canadian firms seem to have the impression that the Canadian Mission will act as their selling representatives and that to secure orders they have only to forward their catalogues. They forget that whereas war orders were thrust upon them, post-war orders can be secured only against world competition by individual enterprise and effort. A brief survey of the trade situation shows how impossible it would be for the Canadian Mission in London to endeavor to represent or secure orders for individual firms or corporations, but it can be of very great practical value in supplying information to the representatives of these firms or corporations and assisting them in many ways to secure a large volume of trade.

Too much emphasis cannot be laid upon the recommendation made time and again by the Canadian Mission that the leading producers of Canada should take steps to be represented here. In all cases where possible industries should organize and send one representative for the entire group. Where this is impossible, every individual firm having large capacity for export should send its own special representative or appoint a reliable agency to carry on its work. Orders coming to Canada through Government credits may not demand a special sales organization, but all orders received in Europe through normal channels of trade, namely, the importing merchant firms, can be secured only by capable representation against world competition.

Support Your Representative

The traveller or appointed agent deserves hearty support from his Canadian source of supply. Instances are at hand where Canadian firms have appointed more than one "exclusive" agent in this market, thus complicating their own business and, to the disgust of all their "representatives," receiving no whole-hearted service from any of them. Canadians must "play the game" in business as in war, and unless they are thoroughly straightforward they will find that grasping for too much they have lost all.

Other representatives from Canadian firms are handicapped because they have no definite price quotations from their head offices. They are expected apparently to "jockey" both their competitors and their customers in order to obtain the very highest possible prices. Surely this is not a sound foundation principle for export business. It is the duty of the Canadian producer to supply his export representative with a definite price, and, considering the fact that Canada is competing with the world, this price should be the lowest reasonable price at which the producing company desires the business.

The Canadian Mission in London has even been asked by manufacturers in Canada to ascertain competitive prices on classes of business for which Canada is specially well equipped to compete. This does not inspire the confidence we should have in our great and growing industries. When they really want orders, Canadians should quote quickly, and quote their best and lowest price first.

They should also keep their representatives fully informed with regard to ocean tonnage and rates, bearing in mind that all rates on Eastbound traffic are fixed in North America. They should in every case establish an "Export Department," for the special purpose of co-operating in the closest possible way with their overseas representatives. Such close co operation will go a long way to preventing expensive mistakes and making the Export Department a source of satisfaction.

"Don'ts"

The following "Don'ts" may be useful at the present moment to Canadian exporters:

(1) Don't believe that you can't get export business *until* you try.

(2) Don't believe that you can get export business *unless* you try.

(3) Don't expect to make a success of export business without providing a special department in your organization to take care of it.

(4) Don't depend on the Government or the Canadian Mission in London to sell your product. Send or appoint your own representative.

(5) Don't neglect your representative after you have appointed him. Lead him to expect your co-operation as you expect his.

(6) Don't try to appoint more than one agent in any one market without a thorough understanding and co-operation. Enthusiasm goes a long way towards booking business.

(7) Don't expect your representative to "jockey" prices for you. If you want the business give him your best quotation.

(8) Don't permit inferior or imperfect goods to be shipped on export orders. If you do, you will ruin your own prospects for export trade and bring disgrace on Canada.

(9) Don't permit any export shipment to leave your premises without careful inspection of both quality and quantity.

(10) Don't break faith in any way whatsoever with your export customers because the ocean lies between.

The Canadian Trade Commission at Ottawa

By ERNEST B. ROBERTS

AT what stage is the work of the Canadian Trade Commission? The question has an interest for every business man in Canada, because the reply thereto should reflect the present stage of Canada's international trade.

To use a homely term, whose precedence many a business man may recognize, the "preliminary canter" is over and the "line-up for the start" is being made. Up to date a vast amount of preliminary organization has had to be undertaken. Here, as in the earlier efforts of the Canada Food Board, it has been found that examples of war trade bodies in the United States and in Great Britain are of little use as guides. Canada's problem is one for her own solving. Those at the Commission at Ottawa have had to make their own path in post-war trade work, discarding or ignoring after examination most of the partial similarities of other countries, and are to-day satisfied that they can "blaze their own trail," with the independence and courage of our older Canadian pioneers.

It may seem like preaching to the converted to tell business men again that the Commission in Ottawa acts as the Dominion link with the Canadian Mission in London. A somewhat elaborate connection between the two has been established. Cable communication, of course, is not enough; any more than it would be in the case of a buying agency or commission house with a branch in either capital.

The preliminary work has been heavy and complex. This is not the place to tell it, but it may be stated without conceit that every problem so far has been satisfactorily dealt with.

Work Has Grown Rapidly

The Canadian Trade Commission's work has grown surprisingly in the last few weeks. Daily inquiries for information on market openings abroad are a feature of the correspondence, showing a healthy readiness among firms to take up a new field of activity made apparent by the Canadian example in munition-making and other war work. Their spirit and enterprise could not be improved. The Commission acts as a clearing house for such information, working hand in hand with the Canadian Mission in London, and receiving cable and mail news from several other sources.

A second class of inquiry relates to the changes, complex in their rapidity, in British and foreign restrictions by the war to peace transition regulations. To meet these difficulties a handbook setting forth existing conditions in over fifty British and foreign countries has been compiled. It is intended primarily for exporters and merchants who request it. Each of the self-governing British dominions and colonies had to be dealt with as a separate country. Many neutral countries come under regulations, due to the measures taken by the Allied Governments.

Prospects for export trade are now rosy. The announcement of a British preference to Empire-made goods promises a fillip to trade and commerce, and agreements with foreign countries are in a satisfactory stage. That between the Canadian and the Rumanian Governments for the allocation of the $25,000,000 credit is already in Ottawa; Grecian and Belgian agreements, each for $25,000,000, have been signed and are expected on this side shortly, while a French credit of the same amount is pending, and an Italian credit is under consideration.

It is plain to the Commission that the whole world has been waiting the signing of the peace treaty. The purse strings of every nation are being held tight until then, but there must come a vast expansion of general trade immediately that treaty will go into the files of history. The uncertainty and hesitation of manufacturers and merchants should cease in the recognition that for almost five years the productive nations of the world have been wasting their resources in the air, for that is the net result of war.

Efforts Anticipate Needs

It would be idle to imagine that the arrears of four years' work and the repairs which are necessary throughout the world in industrial plants and in everything which touches business and domestic life will not have to be made good. There may come such a flood of industrial activity as may equal that which marked the opening stages of the war. The only question is how many more months this may be delayed. Until the answer to that question can be given, the efforts of the Trade Commission must be directed largely to intelligent anticipation of what trade needs and conditions then may be.

It is the belief of the Commission's advisers that no immediate drop in general prices can take place in Canada yet. The Commission is doing everything possible to urge the stabilization of prices. This, it is hoped, will restore confidence in the domestic market at least. Wherever possible, the Commission suggests that it would be wise to undertake our buying within the Dominion now, and at present prices. It is known that retail stocks are low, and that large numbers of merchants are holding off in the hope that there will be a general slump. The same is true of many manufacturers, large and small. This means that they are accentuating, unconsciously perhaps, the evils which they hope to avoid, and are in the meantime inducing a certain amount of unemployment. This is short-sighted, because it will mean the migration to a greater or less extent of labor from the point where there is a lack of employment, and so a scarcity of labor there, with the consequent possibilty of increased wages to be paid when activity returns—perhaps sooner than is expected.

Among the ways taken by the Trade Commission to stimulate trade within the Dominion by the encouragement of immediate buying, the following may be an example which illustrates the method rather than the aim. Returns have

been secured of certain foodstuffs now offering at prices favorable to buyers, and from the returns already made it appears that Atlantic fish merchants are able to fill large orders for herring, cod and sardines, on good terms to buyers, and that British Columbian merchants have a considerable quantity of chum and salmon. Wheat flour, oatmeal, rolled oats, desiccated vegetables and beans are among the foodstuffs which the Commission finds are held in large quanties and which could be released at what, looking to the future, seems to indicate remarkably good prices to the buyer. It is perhaps interesting to know that there are two and a half million bushels of beans in the country, though before the war Canada regularly imported large stocks.

Practically the whole field of trade is covered by the Commission, the division of work, for the present at least, being between agricultural and industrial production. A large amount of informative work for the public, it is realized, will have to be undertaken, but with the goodwill and assistance of Canadian manufacturers and producers, there is no reason why the Canadian Trade Commission should not be as successful in the net result as was the Canada Food Board in conditions which were quite as singular and unprecedented.

Work of the Canadian Reconstruction Association

By Sir JOHN WILLISON
President, Canadian Reconstruction Association

TO stimulate production, encourage final processes of manufacture and ensure employment at fair wages for Canadian workers, the Canadian Reconstruction Association, at its executive meeting at Montreal, on April 25, decided to conduct an extensive poster advertising campaign for development of the home market. The plans, as approved, contemplate not only the utilization of large billboard posters in cities and towns in the country, but direct appeals to employees in industrial concerns throughout the Dominion.

Satisfactory progress was reported by the Eastern, Central and Western Committees, and a comprehensive summary of activities was presented to the members. Mr. S. Roy Weaver, head of our Investigation Department, has gone to Chicago to attend the three-days' session of the sixth National Foreign Trade Convention. This convention was called by the National Foreign Trade Council, and its theme is "Foreign Trade Essential to American Industry." Addresses are to be given by some of the leading public men and bankers of the United States, and also by high officials of the United States Government. From Chicago, Mr. Weaver will go to St. Louis, where he will attend the seventh annual meeting of the Chamber of Commerce of the United States, held on April 29, 30, and May 1. He will then attend the sessions of the Academy of Political and Social Science, and before returning will visit Washington where he will spend several days inquiring into reconstruction measures under consideration by the various Government departments.

Reasons for Optimism

There is every reason for industrial optimism in Canada. Already, through the extension of Government credits, new export markets are being opened up in Europe. Credits of $25,000,000 have been established with Roumania, Greece, and Belgium, and further credits are anticipated with France, Italy and Serbia. In addition, a $50,000,000 credit for Canadian lumber has been established with the British Government. Representatives of Canadian industrial groups, cooperating in many instances with the London Trade Mission, have also secured large independent orders abroad, and the country is facing an export trade new in its history. The Pacific coast, watching the industrial revolution in Japan, looks for greatly increased trade with the Orient. The removal of British import restrictions against Canada promises an Imperial trade through Imperial preference which may surpass all expectations. There is a prospect of increased trade with the British West Indies, and extension of trade with South America is anticipated from the establishment of a steamship line between Canada and South America with Sydney, Halifax, St. John and Montreal as the Canadian ports of the service. For the moment, plans for closer commercial relations with Siberia cannot be realized, but there is every promise for extensive future development.

Resources of the West

With such great export prospects, there is also a domestic industrial revival. The country is studying its natural resources as never before and is concerned to determine their exact nature and to ensure their economic and scientific development. Representatives of Western constituencies at Ottawa have organized a Natural Resources Committee which will probably develop into a permanent body. Manitoba and Alberta are investigating their resources and stimulating industrial growth. Throughout the Maritime Provinces development of water-powers, of the fisheries, of the great coal areas, and similar problems are commanding the attention of provincial Governments and public bodies. There is a spirit of confidence and an assurance of development throughout the great mining areas of New Ontario.

With such prospects of domestic and foreign trade extension, industrial optimism is indeed justified, but if Canadian manufacturers are faced with great opportunities they have also specific obligations. In both home and distant markets, it is imperative that Canadian products should be of high quality and that orders and specifications should be observed to the letter. In a recent bulletin to its members, the Canadian Reconstruction Association, after acknowledging the splendid work being done by the Government trade bodies in the establishment of foreign credits for the purchase of Canadian products, emphasized the fact that such purchases are dependent solely upon the ability of Canadian farmers and manufacturers to supply the character and quality of products desired. "Canadian products sent in reply to foreign demand must be of a quality that will fulfill all specifications and give to Canadian products abroad such a reputation that the guarantee of Made in Canada will be a guarantee of quality. Care in manufacture, care in shipment, delivery by specification—these are vital considerations which will determine not only the fate of the credits already established by the Canadian Trade Mission, but the future of Canadian foreign trade in new and distant markets."

Science and Research in Reconstruction

To Carry on the War Itself Called for the Intensive Application of Science to Scientific Discovery and Invention—To-day it is a Question of Seeing that not only War but Life Itself is One Perpetual Emergency

By THOMAS RODEN
Chairman Toronto Branch, C.M.A.

THE immediate prospect of the end of the war has brought to the people of the civilized world, and to none more than to the people of Canada, a realization of the fact that the old order of things must be amended and in a great measure replaced by the establishment of a new order in which the basis and foundation of trade, manufacture, business and affairs must be reconstructed. In this reconstruction the advancement of science and its employment in all the business and affairs of life seems to occupy the first place. The necessities and deficiencies which the war has demonstrated have made imperative calls upon the learning, ingenuity, intelligence and industry of all scientists and workers in science and industrial study and research, with the consequence that there can be no stopping place; the progress which the war has shown to be requisite must be maintained. The people of Canada must make provision and provide means in their schemes for reconstruction which will ensure the maintenance of that progress. It is necessary to bring all who take the welfare of the country to heart to a proper understanding of this position.

Whether we know it or not all advance is a result of accumulated knowledge, that is, of science, and its intensive pursuit and application alone will enable us usefully to meet the problems of the immediate future.

The Meaning of Science and Research

When the people of Canada stop to appreciate and understand the unparalleled advances that in our own days have taken place in physics, biology, chemistry, applied mechanics, science as applied to industry, economics and sociology, the supreme importance of scientific study must necessarily be realized. The Rt. Hon. A. J. Balfour, one of the greatest and most advanced thinkers of the day, said, before the war: "Science is the great instrument of social change, all the greater because its object is not change but knowledge, and its silent appropriation of this dominant function, amid the din of political and religious strife, is the most vital of all the revolutions which have marked the development of modern civilization. It has practically transformed human life to such an extent that the experience of man and woman to-day is something radically different from what it has ever been before."

The war has added emphasis to this expression of his thought.

It is common knowledge to all who will learn that the United States has long since developed within itself a means of doing its manufacturing and trade in a great degree by large trade combinations such as in Canada we have not yet been able to rival. These combinations long since learned the necessity for applying the discoveries of science and scientific research to the betterment of their processes—the saving and utilization of by-products and waste, and the investigation of materials and processes for new products and new means of more economically producing products already known.

Nature has given us great resources in Canada and we do not know how to use them. Though we may be far behind the industrial nations of Europe, we have the future before us. How are we to meet these and other problems? We are to follow the men who observe and men of experience who know.

Self Preservation—National Efficiency

By the war's action in bringing about an absolute cessation of the exports the world was accustomed to receive from Germany, the world very soon realized the deficiencies in production and absence of scientific knowledge required to furnish many necessities, not alone in the trades, commerce, arts and manufactures, but in medicine and all the affairs of life. It was absolutely necessary to set to in hot haste to supply at home what could not be got from abroad, and the wants in this connection are not yet supplied nor the necessary discoveries by any means attained. To carry on the war itself called for the intensive application of science to scientific discovery and invention in medicine, chemistry, biology and in all agencies required for the furnishing of necessary munitions and weapons. To supply these necessities the utmost ability of the scientist and the scientific research enthusiast and the student of applied science was commandeered, with the success we all know of. The war fired the imagination. Here was an emergency that got home to all mankind. To-day it is a question of seeing that not only war but life itself is one perpetual emergency—and that the emergencies of to-day, like those of yesterday, are both profound emergencies and common emergencies.

The common health of the people brings us face to face with the unseen agencies that threaten our very existence, while the foundry, the mine and the blast furnace present processes which so often go wrong and baffle the most competent of experts. Every science is simply the attempt to know some phase of nature presenting its most perplexing complications in the ordinary course of life, progress, and industry.

Concentration of Effort

The universities and technical and other educational agencies are preparing and sending men into the field of research as rapidly as possible, but all too slowly in view of what is required. These men, when educated, must be furnished by the public with every available aid and encouragement. This aid is beyond the competency of any private agency. The work means little pecuniary reward to the worker outside of exceptional cases.

Hitherto there has been no concentration of effort in research nor in the means provided for its pursuit.

This experience has demonstrated conclusively that the attainment of efficiency in all the practical affairs and operations of life has become imperative for the safety and progress of every people. Inefficiency is now out of date—to stand still in these matters is suicidal—energetic action is insistently called for. The more aggressive it can be made the better. It rests with the public to provide every means and assistance for a work of such moment and of such incalculable value to the people of Canada, if not to the whole human race. All civilized people are awake more or less to

these conditions. The logical and inevitable result will be that the country would, by the efficiency of its science and research, approach the best and cheapest means of production and give results from the exploration of new fields, while thus protecting its trade from outsiders, may by the superior efficiency alone hope to foster and advance its commerce with other countries.

Canada Being Awakened

The campaign launched in 1913-14 by the Royal Canadian Institute in development of its great objective to arouse Canadians to a sense of the importance of scientific and industrial study and research commenced the waking-up of the Canadian people. This campaign has ever since been in active operation by publications and addresses, and by the lecture at the public meetings of the Institute, and all other available means, to spread this knowledge among the people everywhere in Canada.

In this vital movement the Institute has benefited by the counsel and assistance of the late Sir Sandford Fleming, and of many of the leaders in Great Britain and the United States, and its carefully matured plans have been approved by the University of Toronto, by each of the banks having its head office in Toronto, by the Toronto Board of Trade, the Manufacturers' Association (Toronto Branch), and by all the important technical organizations in Western Ontario.

The Dominion Government has since realized its responsibilities to the extent of constituting "An Advisory Council of Scientific and Industrial Research," which, after two years existence, has about got into its stride and is doing good work in holding out rewards for success in research and in suggesting means for its practical pursuit, as well as working with the universities in the preparation of students for research and in doing the pure science work of research. It is now the duty of the manufacturers to aid by every means possible, financial and political, the objects and work of the Advisory Council.

Canada's Pressing Needs

Canada stands, in a sense, absolutely naked of any institutions by which the great mass of industries can be helped to meet the expert and efficient productions of the United States and Great Britain. We lack standards, except such as may be recognized in the products of certain manufacturers. We have no scientific libraries accessible to our work and worthy of the name and of our country. Therefore, with no laboratories or libraries, we must press for the consideration and attention of this most important and urgent situation.

Determined Fire Prevention Legislation

Amendment to the Criminal Code Drafted—Negligence to be Punished by Imprisonment — Elimination of Fire Hazards Made Compulsory

IT has, for many years been advocated, by those interested in fire prevention, that legislation should be enacted in Canada whereby negligence in allowing fires to occur should be made a punishable offence. Since it is conceded that the vast majority of fires are due to preventable causes, it has appeared obvious that the appalling fire waste in this country would never be appreciably lessened until some steps were taken to remedy the carelessness which has made it so large. An amendment to the Criminal Code has now been drafted which constitutes a great stride forward in fire prevention legislation and which should be attended by speedy and valuable results. The amendment is as follows:

The Draft Amendment

1. Section five hundred and fifteen of the Criminal Code is amended by inserting the following subsection immediately before subsection two thereof:—

"(1A). Every one is guilty of an indictable offence and liable to two years' imprisonment who by negligence causes any fire which occasions loss of life or loss of property.

"The person owning, occupying or controlling the premises in which such a fire occurs, or on which such fire originates, shall be deemed to have caused the fire through negligence if such person has failed to obey the requirements of any law intended to prevent fires or which requires apparatus for the extinguishment of fires or to facilitate the escape of persons in the event of fire, if the jury finds that such fire, or the loss of life, or the whole or any substantial portion of the loss of property, would not have occurred if such law had been complied with."

2. The said Act is further amended by inserting immediately after section five hundred and fifteen the following section:—

"(515A). In any case where any fire insurance company which carries any policy of fire insurance on the property, or any Dominion, provincial or municipal fire officer or authority recommends that the owner, lessee or other person controlling or operating any building, structure, factory, shipyard, vessel, dock, wharf, pier, sawmill, or yard in which logs or lumber are stored or held, should make any change or alteration in such building, structure, factory, shipyard, vessel, dock, wharf, sawmill, pier or yard, remove any material therefrom, or supply any apparatus therefor, with a view to reducing the risk of fire or for the extinguishing of fire, and such recommendation is approved by any officer in the service of His Majesty, thereto authorized by the Governor in Council, and notice of such recommendation and of such approval thereof has been served personally upon or forwarded by registered mail to such owner, lessee or other person, and such owner, lessee or other person refuses or neglects to forthwith carry out such recommendation, such owner, lessee or other person shall be liable upon summary conviction to a fine not exceeding one thousand dollars, or to imprisonment for any term not exceeding six months, or to both fine and imprisonment."

A Drastic Regulation

The second section of the amendment is even more drastic than the first, although at first sight it may not appear so. Under this paragraph it would be within the right of the "Officer in the service of His Majesty" to compel the owner of a very hazardous business to instal a sprinkler equipment in his plant. Such legislation is similar to that which exists in New York, where the City Fire Commissioner has the power to compel the installation of sprinklers in the case of risks which, in his opinion, endanger the surrounding buildings. A great deal will necessarily depend on the knowledge and experience of the official to whom such wide powers are delegated. Provided the new is interpreted wisely and carefully, it can hardly result in anything but good.

Canada's Big Repatriation Machine at Work

An Explanatory Article Describing the Functions of the Various Departments and Committees which have been Formed for the Purpose of Expediting the Return of Canada's Soldiers to Civil Life—How They are Related to Each Other and the Whole

By W. G. CATES

THE two R's, Repatriation and Reconstruction, are on everybody's lips. For the present they dominate our whole national life and policy. Repatriation means the receiving of the returned soldiers back into civil life and the fitting of them into its social and industrial activities, under at least as good, and, in the majority of cases it is hoped better, conditions than those which they left when they donned the khaki. Reconstruction means the speeding up of the nation's industrial and commercial life to something like its normal peace times' pace. In its wider sense it means also the reshaping, to some extent, of industrial and social conditions to meet the world-wide social changes produced by the war.

Canada, which during the war surprised both herself and the world generally by her military and industrial operations, is tackling the problems of Repatriation and Reconstruction with all the aggressiveness that characterized her efforts while the fighting raged. She can do this work satisfactorily because she has for years been doing work of a very similar nature. Her experience has been gained in the receiving and settling of the tens of thousands who, annually, before the war, came to this country from abroad. Much of that work left considerable to be desired; still, all things considered, it was fairly well done. But Canada will perform in an infinitely better manner the task she now has in hand, having for this special purpose ample and efficient machinery.

Of failure there should be no thought. The country that, with very indifferent means, could take in over 2,500,000 immigrants, as Canada did between 1897 and 1917, should not, find it an insuperable task to take back into civilian life between 500,000 and 600,000 men, a large percentage of whom will automatically return to their old positions. Of the 418,000 who went overseas, 50 per cent. have already returned and there is comparatively little unemployment.

Repatriation Comes First

Repatriation naturally receives first consideration, for the first steps in this work are taken when the men begin to make preparations for their return to this country. As there are many phases in this process, several departments of the Dominion Government, from the time that the soldiers began to return home, assumed a large measure of responsibility for the work. These were the departments of Militia and Defence, Interior, Agriculture, Immigration and Colonization, Labor, and the Department of Soldiers' Civil Re-establishment. Then the provincial governments, possessing large powers and large revenues, were naturally looked to by the men and have readily recognized their responsibility. Finally, the general public has had a vital interest in the matter, for it has been clearly recognized from the beginning that the repatriation of the returned men is a work for people individually quite as much as for governments, and that recognition of this fact is absolutely necessary to success.

With so many agencies working with a common purpose, it was inevitable that, unless their efforts from the first were co-related, there would be overlapping, and there was. The necessity of reducing this to the minimum was recognized and so, during November, 1918, the Repatriation Committee was appointed. This is a sub-committee of the Cabinet, consisting of the ministers of the six departments directly interested: Sir Jas. Lougheed, Hon. J. A. Calder, Hon. Arthur Meighen, Hon. N. W. Rowell, Hon. T. A. Crerar, and Hon. Gideon Robertson. Hon. J. A. Calder was appointed Chairman, H. J. Daly, Director of Repatriation, and Vincent Massey, Assistant Director. The work of the committee is to co-ordinate the various departments of the Dominion Government that deal with the returned soldier problem; to link these up with the provincial governments and organizations in the country that are willing to help solve the returned soldier problem. To a considerable extent it also acts as a mouthpiece for all, doing very largely the work of publicity and renders important service through acting in an advisory capacity. It is assisted by four advisory councils, The Great War Veterans, The Labor Advisory Committee, the Woman's Advisory Committee, and the Advisory Committee from the Union of Canadian Municipalities, through which the co-operation of municipal bodies is very largely secured. In short, this committee has introduced team-work into the Repatriation Movement.

Work of Various Departments

To the Department of Militia and Defence falls the actual work of demobilization; it, in conjunction with the Overseas Minister and Sir Arthur Currie, having worked out the plans. It has control of the men until they are discharged at the dispersal stations.

The Department of Soldiers' Civil Re-establishment takes up the work where the Militia Department leaves off, being charged with the responsibility for the men's welfare until they are fully re-established in civil life.

The Department of the Interior administers the Land Settlement feature of the Government's plan.

The Department of Labor supplies much of the machinery for the securing of employment for the returned men and supervises and largely directs this work.

The Department of Agriculture, being greatly interested in the effort to start so many men on the way of successful farming, lends its assistance in every way possible.

The Department of Immigration and Colonization brings home the dependents of the returning men.

The work of the Department of Soldiers' Civil Re-establishment is one of very great magnitude. To date $20,000,000 have been spent on it, the expenditure during 1918 being $12,000,000. The estimated expenditure for this year is $23,000,000. The departmental staff numbers 2,450. Broadly speaking, the activities of the Department are of a two-fold character. It looks after the invalided and disabled soldiers and assumes responsibility for the returned men until they finally take their place in settled civil life. But the Department does not wait until the men come across. As soon as the Armistice was signed, a representative was sent overseas with a questionnaire, in which the men were asked to state the name of the community to which they desired to

return, the kind of work they had formerly done and what they would like to engage in.

The leading branches of the Department are: Information and Services, Medical Services, Orthopedic and Surgical Appliances, and Vocational Training. First, the Information and Services branch, which, at the dispersal stations, takes charge of the men who are physically fit and are about to return to peace-time activities. For purposes of organization the Dominion is divided into 11 units, corresponding to the 11 military units, there being an officer in charge of each. At each dispersal station is an official to supply information, who passes the men on to the Provincial Returned Soldiers' Commission, which is a sub-committee of the Soldiers Civil Re-establishment Department in its particular province. If employment is desired, the returned man is directed to the nearest employment office, in which an official of the Department is to be found, and who is charged with the responsibility of assisting returned men to get suitable work.

The Provincial Returned Soldiers' Commissions are a kind of supporting organization to the governmental machinery, supplying the link between the government and the public in welcoming the soldier and getting him settled. As soon as a transport arrives at a disembarkation port, a list of the men booked for the district covered by one of these Commissions is wired to its head office, which, in turn, advises the relatives, and in this way arrangements are made for the local homecoming. Branches of these Commissions exist in all communities of any importance.

The care of wounded men, of whom at the end of 1918 there were 42,000 in Great Britain and France, is a big problem. They are brought home in hospital ships in charge of the Army Medical Corps, and sent to the various military hospitals throughout the Dominion, and there treated until cured, or until their condition is such as to demonstrate that they require permanent treatment. In the latter case they are taken in charge by the Medical Services branch. By the end of March over 6,000 patients had passed through the 39 institutions controlled by the Department. If a soldier has lost a limb he is not only provided with an artificial one, but is entitled to have all necessary repairs made to it during his lifetime. A Government factory, in which men fitted with artificial limbs and other similar appliances are employed, is also operated.

Work of Vocational Training

Two classes of work are carried on by the Vocational Training branch, i.e., Occupational Therapy and Industrial Retraining. The first is training in light work, the general purpose of which is to advance the treatment of hospital patients and, in this form of treatment, Canada easily leads the world. Other work is entered upon as the patient progresses. When a soldier has been so disabled as to be unfitted for his former occupation, he is given an opportunity to take a Vocational Training course, designed to fit him for new duties. His case is first passed on by a Disabled Soldiers' Training Board, which endeavors to direct him wisely. While taking his course the man draws pay and allowances for himself and dependents, if any. The courses are very varied and thorough, no less than 177 trades being taught. The best of equipment has been placed at the disposal of the Department in universities and other educational institutions, as well as in large industrial plants, throughout the Dominion. In the early part of February 2,569 men had been graduated, and 2,109 were taking courses; while over 7,000 more had been passed for training. It is worth noting that Canada provides Vocational Training for all disabled men. In the United States before a disabled soldier gets it he must first be in receipt of compensation from the War Risk Insurance Bureau. Up to March 22nd only 3,635 American soldiers were receiving special training of this kind.

The Pensions Board, which is attached to the Department of Soldiers' Civil Re-establishment, now has 60,000 names on its books, the payments for pensions during the present year being estimated at $30,000,000. The pension, which is based on disability, implying decreased earning power, varies with the extent of the disability, a totally disabled Canadian soldier or seaman of the lowest rank getting $600 a year, with $96 additional for each child, girls up to 17, boys 16 years of age. Widows of pensioners are entitled to pensions as long as they do not marry again.

It is estimated that Canada this year will pay nearly $120,000,000 in War Service gratuities. Of this amount nearly $25,000,000 has already been paid out. A gratuity of this kind is a continuation of a man's pay, field allowance and separation allowance for a given period beyond his discharge, the maximum time being placed at 183 days. It varies according to rank and length of service and according as service has been in Canada or overseas. It is believed that these gratuities are as high as any, if not the highest, paid by any country to its soldiers and sailors.

Finding Employment

The problem of finding employment for returned soldiers is being handled by a chain of Dominion and Provincial employment offices stretched across the Dominion, organized on a given standard and receiving uniform direction; these, in turn, being supplemented by local advisory committees of employers and employees; while, standing behind all this, is the extensive and efficient machinery of the Labor Department. By a joint arrangement between the Dominion and Provincial Governments, the latter, save in the Maritime Provinces, have undertaken to open employment offices in the various provinces, the Dominion paying one-half of the expense and providing for standardization of methods. In each of these a S.C.R. official is found. In order that all matters relating to the securing of employment might centre in these offices, it was understood that all private employment bureaux should be abolished. In each province there is a provincial clearing house, to which all offices report daily. The connecting link between the provinces is supplied by the Labor Department, which has clearing houses at Winnipeg, Ottawa and Halifax. In this way the exact conditions of the labor situation are always known to the Department. Supplementing these are reports of field agents, who keep closely in touch with the leading industries, as well as reports from employers and labor unions, which enable the Department to tell accurately at any given time where workmen may be placed to advantage.

The wives and children of the soldiers overseas are now being brought home to Canada by the Department of Immigration and Colonization. Recently it was also decided to transport them at the public expense. About 22,000 of them had arrived before the Armistice was signed, and it is believed that over 40,000 have still to come. It is expected that from now on they will be returned at the rate of about 6,000 a month. In addition to the service rendered by the Department, the Canadian Patriotic Fund, Red Cross and Repatriation Committee, to say nothing of scores of smaller organizations, also help greatly, nothing being left undone to make welcome either the returning ones, or the new arrivals in Canada, for thousands of Canadian soldiers married overseas.

The work of the Soldier Settlement Board is extremely important, because of the possibilities which it presents for a permanent and happy solution of the returned soldier problem. It is important for the further reason that, if what it offers is very generally taken advantage of, it will involve

the outlay of many millions of public money in the form of advances, which, of course, will come back during a period of twenty-five years. By the new provisions of the Soldier Settlement Act, a soldier may now secure advances for the purchase of land, implements, live stock, etc., up to $7,500. Putting at $5,000 the average advance to the man who buys land, then if 10,000 men should take advantage of this arrangement, the outlay would be $50,000,000. This year the estimated expenditure is $25,000,000. However, it remains to be seen whether resort to the purchase of land will be as necessary as seemed probable a year ago. This is a matter for Chairman W. J. Black and his two colleagues on the Board, Major E. J. Ashton and S. Maber, to settle. From present indications, by the end of the year over 25,000 applications will have been filed by men desiring to take advantage of the benefits offered.

There has been a great deal of uncertainty over the question of the amount of suitable Dominion lands available in the prairie provinces. Nor can it be said that the actual facts of the situation have, in this respect, yet been ascertained. When the problem of the returned men first came up, the natural thought was to supply them with homesteads. By this means thousands of veterans of the American Civil War had been provided for, and it was hastily concluded that this could be repeated in Canada. But it did not occur to some that much of the available land is situated some distance from a line of railway. When two years ago the Soldier Settlement Board came to look for the land the report was that it could not be found in anything like the area required, and within easy reach of transportation facilities. This brought about, to some extent, the reshaping of the land settlement policy, provision being made for the purchase of land by the Board, and the selling of it to the men on long term payments. In the meantime considerable more suitable homestead land has, during recent months, been found, and it is quite possible that certain suitable forest, grazing and Indian reserves may be thrown open. In so far as the latter are concerned, action would depend upon the effecting of a satisfactory settlement with the Indians. However, if all those who have signified their intention of going on land should do so, then the Government will have a big task on its hands; for out of 124,000 members of the Expeditionary Force questioned, 104,545 replied, "the land for us."

Who May Get Benefits

The benefits of the Soldier Settlement plan are open to:—

1. Any member of the naval or military expedition army forces of Canada, the United Kingdom or any of the self-governing British Dominions or Colonies during the present war who served in an actual theatre of war, or who left the country in which he enlisted and who has left the Forces with an honorable record. Service in the United States or Bermuda is deemed to be service in Canada.
2. Any British subject resident in Canada before the war who has been engaged in active service in an actual theatre of war in the naval or military forces of any of His Majesty's Allies in the present war, and who has left the Forces with an honorable record.
3. The widow of any such person described above who dies on active service.
4. In the case of the Canadian Expeditionary Force, any person who served in Canada only and received pensionable injury or disability due to service, or the widow of any member of the C.E.F., who died while a member of such Force before leaving Canada.

The Soldier Settlement Board is prepared to give every person coming within the provisions of the Act a fair opportunity to make good on land; but it does require that every person who gets this opportunity shall give evidence of being able to make good. For this reason five distinct lines of policy are recognized:—(*a*) To settle only those who will do best by engaging in farming; (*b*) To settle persons only on land where a first-class home may be made, where farming will be profitable and the location generally suitable; (*c*) Settlement to be not distant from a railway, or an organized community, in the West the maximum distance not being more than fifteen miles and in the older provinces, eight miles; (*d*) By special arrangements, to enable settlers to secure the best possible value in buying live stock, implements and other necessaries; (*e*) To assist settlers in their activities so as to ensure success.

Kinds of Land Available

Three classes of land are available to returned men through the Soldier Settlement Board: (*a*) Dominion Crown lands; (*b*) Privately owned lands in any province that may be acquired by the Board through purchase. As has already been said, it is uncertain how much Dominion Crown land of good quality there is within easy reach of a railway. Some Provincial Crown land is available, but it is not the intention to locate men in districts where good roads are not assured. Quite a number of persons have offered land to the Government on reasonable terms. When such offers are received they are classified according to counties and districts. As they are passed upon by municipal officers, also officers of the Great War Veterans' Association in the respective districts, passed on again by the provincial Advisory Loan Committee, and by other G.W.V.A. officials before being thrown open to returned men, it is obvious that the interests of the prospective settler are safeguarded. When a selection is made the land is then looked over by a capable land inspector. On such transactions no commissions are allowed.

The settler who, under the provisions of the Act, takes up a homestead, is entitled to free entry for not more than 160 acres of land in addition to his ordinary civilian right of homestead entry.

Under the old Act the settler on Dominion lands may borrow an amount not exceeding $2,500 for acquiring land or discharging encumbrances on land; for improvement of agricultural land; for the erection of farm buildings; the purchase of stock, machinery and equipment, or for such other purposes as the Board may approve. The amount of loan would be proportionate to the security of the land. The amount repayable in twenty years. Under Order-in-Council he may now, in addition to this assistance, purchase from the Board live stock up to $1,000, provided his total borrowings do not exceed $3,000. The amount is repayable in four equal annual instalments, commencing the third year. No interest charged for the first two years.

It having been found necessary to obtain land for soldier settlers, the Board has been empowered to acquire the same by purchase or otherwise. Such land may be sold to settlers at cost, ten per cent. being paid in cash at the time of sale, the balance being repaid in not more than twenty-five equal annual payments, on the amortization plan, with interest at five per cent., with privilege of repayment at an earlier date. When a settler possesses qualifications and equipment that assure his success in farming operations, the Board is empowered to forego the initial cash payment. No sale of more than 320 acres is authorized and the amount owing to the Board at any time must not exceed $4,500.

The Board is also empowered to purchase such live stock, equipment and building material as it may require, and to sell to settlers stock and equipment at cost, the terms of payment being as follows:—All cash at time of sale, or in four equal annual instalments beginning two years after the date of sale, amortization plan, interest accruing two years from the date of sale. The amount unpaid at the time of sale shall not exceed $2,000; which is to be a charge against the land, the title remaining with the Board until the

debt is discharged. Advances up to $1,000 are also authorized for permanent improvements, to be repaid in twenty-five equal annual instalments, amortization plan, the rate of interest being five per cent.

Arrangements have already been made by which soldiers going on land may buy agricultural implements, live stock, and harness at prices considerably below those charged ordinary purchasers. Eight or nine implement manufacturing companies have granted reduced prices and will render special service in supplying spare parts and making repairs. Four or five harness firms have granted reduced prices on harness; while, in the West, the United Grain Growers', Limited, have quoted reduced prices on practically all lines handled by them. This company will also give the returned men service at their 320 elevators scattered over the three prairie provinces. The Board has had specially designed a standard set of harness that will be sold to settlers at an average price of $32.50. The Western Retail Lumbermen's Association, representing 1,200 dealers in Alberta, Saskatchewan and Manitoba, has agreed to sell at wholesale rates, plus cost of handling, standard size lumber for settlers' homes. Live stock will be bought by the Board and assembled at various points where settlers can secure at the lowest prices the very best animals. In the purchasing of stock generally, the soldiers will have the benefit of the experts of the Federal Department of Agriculture.

Those directing the operations of the Soldier Settlement Board being well acquainted with the life of the settler on the prairies and its drawbacks, have taken special measures to reduce, as far as possible, the inconveniences attending it. So the matter of proper housing has received a great deal of attention at their hands. Not only have arrangements been made to sell lumber to the settler at reduced prices, but the Soldier Settlement Board has also undertaken to supply standard houses to soldiers who settle on the prairies. In this way the settler may save from 25 to 35 per cent. on the cost.

Of these houses there are four types, ranging in cost from $300 to $775. Type "A," which is 17 ft. 10 in. x 14 ft., costs $300, and contains two rooms. Type "B," built on the same plan as type "A," has three rooms and a basement. It is 24 ft. x 14 ft., and costs $590. In type "C," the roof is raised and an upstairs bedroom added, the cost being $700. Type "D" is on the same plan as "C," with three upstairs bedrooms instead of one. It has a living room, kitchen and parlor downstairs, and three bedrooms upstairs. The cost is $775. If the material is on the ground, these houses may be erected from within three to eight days.

These houses have been specially designed to meet the needs of prairie life. In order to make sure that they will satisfy requirements, the designing of them has not been left entirely even to capable architects. The plans have been submitted to, and endorsed by, women who have pioneered in the West, and who consequently know from experience what is needed. The Board will erect these houses, or if the settler prefers to do so himself, he has that privilege. The Board's architect, however, supervises the work.

It may also be added that it is proposed to provide plans for standard stables and implement sheds for the settler. This will be done at the minimum of cost, which is placed at $200 for a building 24 ft. x 12 ft., large enough to house four horses and two head of cattle. Special types of houses are being designed for British Columbia and the eastern provinces, due regard being paid to the local climatic conditions.

It is expected that, for the most part, those who take up land will have either been brought up on a farm or have had some experience in farming. There will, however, be others who, though possessing little actual knowledge of agricultural conditions, will make a success of farming, if they secure proper training. For such persons there will be two courses: Preparatory Instruction and Field Instruction. For the first of these it has been arranged that those who require it may be placed among capable farmers who are sufficiently interested in the returned soldiers to give them a chance to learn what is necessary. This term will last one year, during the course of which the man will be visited by an inspector who will report on the progress being made. For those who cannot go on a farm, a twelve weeks' Institutional course in practical farming is provided.

After the soldier is located on his land, the Board keeps in close touch with him, guiding and assisting him in every way possible. Through its organization it also builds up around him a strong spirit of community co-operation, which will do much to make the rough places smooth. It is confidently expected that in this way the returned man on land will have the benefit largely of the collective effort of the community in which he is located. In addition to this, from the time he enters upon the work of farming, he has the benefit of the best advice to be found in the agricultural colleges and departments of agriculture, both Dominion and provincial.

Such are the main features of the Land Settlement plan. In British Columbia, Ontario and the Maritime Provinces, the working of much smaller farms will be provided for. Indeed, the recommendations already made assure this. But these are subordinate features of the general scheme as already outlined.

The Remaining Enemy, Fire Waste

BY J. E. CLEMENT

General Manager, The Fire Insurance Company of Canada, Montreal

THE remaining enemy, Fire Waste, should now be attacked vigorously, thoroughly and incessantly. The task was evidently impossible by individual effort, but concerted and energetic efforts will accomplish the desired result. The assistance which the fire underwriters will receive from the Commission of Conservation and the Dominion Fire Prevention Committee, following the initial movement of the National Fire Protection Association, cannot but show some wonderful and immediate result. Wholesome legislation is of paramount importance, as are also stringent civic by-laws regulating new constructions and correcting existing conflagration breeders. Of course, if we are absolutely in earnest about controlling the fire waste, something will have to be done to replace in the large cities, within a specified time, the threatened shingle roof. Reasonable care on the part of insurance agents not to place temptation in the minds of some of their insured by giving them a policy which will be considered the best and easiest medium of liquidation will go a long way toward reducing the ash heap. The merciless application of the last amendment of the Criminal Code regarding the origin of fires, and also the proper understanding by the magistrature that the rights of insurance companies are also the rights of the public at large, will be other means.

Progress of Science and Industry in Canada*

The War has given an Immense Impetus to Industrial Development in Canada, and the Results which have been Accomplished in the last Four Years in Supplying War Munitions, in Increased Production of Foodstuffs, and in Increased Output of Manufactured Products have been Equalled only by the Country's Military Effort

By Professor J. C. McLennan, O.B.E., Ph.D., F.R.S.
Scientific Advisor to the Admiralty

IN dealing with the question of science and industry in Canada, it is necessary to keep in mind that Canada is a comparatively new country. Though its area is of vast extent and covers more than half of the continent of North America, its population is as yet small, and does not exceed eight millions all told.

Though much has been accomplished, the greatness of Canada is even to-day mainly potential. It is the land of opportunity. Solid foundations have been laid in education, in agriculture, and in the matter of railway transportation, but only a beginning has been made in developing the mines and the fisheries, and in exploiting practically all the natural resources in industries. The water-powers of Canada, which in magnitude are second only to those of the United States of America, are being steadily developed. Capital has flowed and is flowing into the country. The war has given an immense impetus to industrial development, and the results which have been accomplished in the last four years in supplying war munitions, in increased production of foodstuffs of all kinds, and in increased output of manufactured products of every variety, have been equalled only by the magnificent military effort which has been put forth. All of these accomplishments have, I believe I am correct in saying, been far away and beyond all expectations which were held regarding the capabilities of Canada, by the most sanguine and the best-informed of her leaders.

In the short time at my disposal it will be my aim to refer briefly to a number of factors which have contributed, and will contribute with increased force in the near future, to accelerate the growth in power and wealth of this our fair Dominion.

[Prof. McLennan here dealt in some detail with the subject of Education, referring particularly to the scientific work done in the universities. He then discussed Agriculture, referring to it as the basic industry of Canada and the greatest source of her wealth.]

The Mineral Wealth of Canada

Nickel.

About 80 per cent. of the world's supply of nickel—42,400 short tons—is mined in the Sudbury region of Ontario by three companies—one American, the International Nickel Co.; one English, the Mond Nickel Co.; and a newly-established company, the British-American Nickel Corporation.

The ores are sulphides, including pyrrhotite, pentlandite, and chalcopyrite, the pentlandite containing the nickel. The ores are roasted in heaps to drive off sulphur, and are then smelted in water-jacketed furnaces to a standard matte containing 25 to 30 per cent. of nickel and copper. This is further smelted in basic converters to Bessemer matte containing 75 to 80 per cent. of metals.

Each company employs its own process for the final separation of the metals; the International Nickel Co., by several smeltings with alkali sulphates; the Mond Co., by the aid of carbon monoxide which forms a volatile compound with nickel from which the metal is afterwards separated; and the British-American Corporation by an electrolytic process.

One problem to be solved in the metallurgy of nickel is an economic method of utilizing the sulphur dioxide which is at present turned into the air. As much as 1,000 tons a day escape from the waste beds, destroying vegetation for miles around. Iron also is lost in the smelting process. In the sulphur dioxide we have a source of enormous supplies of sulphuric acid, but the problem of producing it economically has yet to be satisfactorily solved.

Copper.

The total production of copper in 1917 was estimated to be 56,500 short tons, about 3.5 per cent. of the world's supply. It is mainly recovered from the metal-copper ores of the Sudbury region. Until last year no copper was refined in Canada, but the International Nickel Co., and the British-American Nickel Corporation have recently installed refineries in Ontario.

Zinc.

An electrolytic zinc refinery has lately been put in operation by the Consolidated Mining and Smelting Co. of Canada, at Trail, B.C., resulting in the production of 10,250 short tons of zinc. As the total zinc production for 1917 was estimated at 15,500 short tons—approximately to $14,000,000 in value, it will be seen that about 70 per cent. of the Canadian ore is now refined in Canada.

Gold.

Canada produces about 3.6 per cent. of the world's supply of gold. The value of the metal refined in Canada in 1916 was $19,234,976 in value and 930,492 fine ounces in amount.

Some 25.8 per cent. of the total was obtained from alluvial workings, 54.5 per cent. from the crushing of quartz ores and 19.7 per cent. recovered from ores and concentrates sent to copper and lead smelters.

Chrome Ore.

Several of the metals so urgently required for the manufacture of special steels for munition purposes have been supplied by Canada since the war. Canada is one of the principal sources of supply of chrome ore, and the production for 1917 was 23,327 tons, valued at $572,115. Investigation has shown that large supplies of low-grade ore found in Quebec can be successfully concentrated, and it is hoped that electric furnaces may be erected in that Province for the production of ferro chrome.

Molybdenum.

Before the war Canada produced practically no molybdenum. On account of the demand in 1915 successful prospecting was carried out, and through a method of concentration developed by the Canadian Mines Branch, the supply rapidly grew. The production increased from seven tons of molyb-

*Paper read by Prof. McLennan, Professor of Physics at the University of Toronto, before the Colonial Section of the Royal Society of Arts, London, March 4th, 1919.

denum concentrates in 1915 to 140 tons in 1917, forming a considerable percentage of the world's supply.

Magnesite.

Formerly practically all the magnesite used in the United States and Canada for lining open hearth and high temperature electric steel furnaces was supplied from Greece and Austria. The war caused the cessation of this supply, and after successful prospecting production in Canada rapidly developed. It was always supposed that the Canadian mineral was inferior to the European, but it has been demonstrated that with proper treatment it produces an efficient refractory comparable to the Austrian product. The Canadian production increased from 120 tons, valued at $840, in 1908, to 58,000 tons, worth $593,000, in 1917, a rise in value of 70,000 per cent.

The Mines Branch, Department of Mines.

The satisfactory position of the Canadian mineral production is in no small measure due to the highly efficient Mines Branch of the Department of Mines, under the directorship of Dr. Eugene Haanel.

The function of the department is to assist the development of the mineral resources of the country, and it carries out its work by the production of statistics and reports, and by scientific and economic investigations. The department has grown rapidly, and to-day comprises a chemical division, metal and non-metallic divisions, statistical division, fuel-testing station, ore-dressing and metallurgical laboratories, metallographic laboratories, ceramic laboratories, structural materials laboratory, and a road materials laboratory, besides the necessary clerical staff, library editorial division, and workshops.

Among the outstanding investigations that have been carried out are the electric smelting of iron ores, the production of metallic cobalt, and its use in electro-plating, the examination of Canadian coals, the analysis of mine air, the utilization of peat, the concentration of molybdenite, and the investigation of the available supply of building stones.

No less than 470 reports and bulletins have been published since the establishment of the Mines Branch in 1907, many of them of great scientific and economic value.

Coal Resources of Canada

The fuel resources of Canada are diverse in character and enormous in extent. If one considers coal alone, Canada's coal reserves take second place in the rank of the estimated reserves of the various countries of the world, the United States reserves being the greatest.

This being the case, there would seem to be no justification for the fact that some 50 per cent. of the annual coal consumption in the Dominion is imported from the United States. This arises from the geographical location of the coal-fields at present worked; the production being in the extreme east and in the extreme west, in the proportions (taking 1916 figures) of—

Nova Scotia	about 50 per cent.
Alberta	about 30 per cent.
British Columbia	about 18 per cent.
Saskatchewan	about 2 per cent.

of the yearly consumption.

It will be seen from the above that the Provinces of Ontario and Quebec, with their large populations and their extensive industries, are largely dependent upon the United States for their coal supply. This is also true of Manitoba and Saskatchewan. The Western Provinces, however, have many million tons of fuel available, but it is estimated that about 90 per cent. is lignite or of the sub-bituminous variety.

This lignite was recently the subject of a report by the Honorary Advisory Council for Scientific and Industrial Research, which devoted itself to the problem of fuel at the commencement of its activities.

This report recommends the production of a fuel suitable for domestic use from the lignites of Saskatchewan.

The method of manufacture projected is:

1. Carbonization of the lignite by which the moisture (some 40 per cent.) is driven off.

2. Briquetting, under pressure, of the carbonized residue, using a binder, such as sulphite pitch—a waste product from pulp mills.

3. Waterproofing of the briquettes by heating, which is intended to coke the binder.

The estimated cost per ton of briquettes at the mine is $7.00, which is $3 to $5 less per ton than Pennsylvania anthracite at the same place. The value of by-products such as gas, ammonium sulphate and tar is neglected in this estimate. The net result of the process will be that from two tons of lignite approximately one ton of briquettes, with a calorific value of anthracite, will be obtained. The Council recommended the expenditure of $400,000 on a plant, with a capacity of some 30,000 tons of briquettes per year.

As a consequence of this report, the Dominion Government, by an Order in Council, created the Lignite Utilization Board of Canada, which is financed by the Dominion Government and by the Provincial Governments of Manitoba and Saskatchewan.

The Lignite Utilization Board

The Board is at present investigating operating plants, machinery, and processes in the United States and in Canada, and it is expected that the Canadian plant will be in operation in the spring of 1920.

If this experiment is successful with Saskatchewan lignite, the other higher grade fuels will also be utilizable, and by public or private development along the lines proved to be the best, the Canadian Middle West should become independent of other fuel supplies.

Interlinked with the question of coal supply, and the development of coal resources, is that of hydro-electric energy.

In certain areas in Canada where the coal resources are small, the water-power available is extensive and can be used to release coal for heating purposes. It can be shown (it is a question of relative efficiencies) that, within the limits of practicability, fuel should be used for heating, e.g., houses and hydro-electric energy for mechanical power.

Recent figures (1916) show that about one-third of the total coal consumption in Canada is used by locomotives. Development of hydro-electric power, and the electrification of railroads, where possible, will be a step in the right direction, and will release coal for heating purposes, and vast numbers of railroad trucks for transportation.

Use of Hydro-Electric Energy

The use of hydro-electric energy on an extensive scale for heating cannot be looked to as a solution of a coal supply, either from the point of view of general considerations such as the seasonal load, or from the point of view of relative efficiencies. But as an auxiliary in such cases as electric furnaces, welding, cooking and heating on a small scale, it will help to ease the situation and release coal for more efficient use. It will be pointed out later that the best policy to pursue will be to develop, as rapidly as possible, all the hydro-electric powers available in Manitoba, Ontario, and Quebec, to use the electric energy as far as it is required in these provinces for mechanical power, in industrial works, and for electrifying the railroads, and to hold the balance as a means of

barter with the United States, in order to obtain from that country the coal required for heating purposes by the provinces mentioned.

[Prof. McLennan next dealt with the work of the Honorary Advisory Council on Scientific and Industrial Research.]

Canadian Water Powers

In dealing with the question of water powers in Canada, I cannot do better than refer you to the reports recently prepared by the Water Powers Committee of the Conjoint Board of Scientific Societies. In these reports it is pointed out that the organizations existing for the collection of information on water resources and their development in Canada are both Federal and Provincial.

1. *Federal Organizations.*

The most important of the federal organizations which contribute to this end are: (1) The Dominion Water Power Branch and the Irrigation Branch of the Department of the Interior; and (2) the Commission of Conservation of Canada.

The Dominion Water Power Branch.—(1) This organization carries out in New Brunswick and Nova Scotia all stream measurement work, and power and storage investigations, co-operating with the New Brunswick and the Nova Scotia Water Power Commissions in their respective Provinces; (2) does similar work in Manitoba as "The Manitoba Hydrometric Survey"; (3) carries out power and storage investigations in Alberta and Saskatchewan, co-operating with the Irrigation Branch of the Department of the Interior, which is responsible for stream measurement work in these Provinces; (4) carries out stream measurement work in British Columbia as "The British Columbia Hydrometric Survey," co-operating with the British Columbia Water Rights Branch.

The Dominion Water Power Branch also works in conjunction with the Department of Trade and Commerce in statistical compilation, e.g., in taking a census of electrical central stations and hydro-electric undertakings throughout the Dominion.

Investigations which touch on international and navigable waters are directed by the Public Works Departments, while meteorological data are supplied by the Meteorological Service for Canada, which is maintained by the Department of Marine and Fisheries.

2. *Provincial Organizations.*

The most important of the Provincial organizations are:

(1) The Hydro-Electric Power Commission of Ontario;
(2) The Quebec Streams Commission;
(3) The New Brunswick and Nova Scotia Water Power Commissions; and,
(4) The British Columbia Water Rights Branch.

The Provinces of Manitoba, Saskatchewan, and Alberta are distinct in that water power investigations and administration are under federal control.

3. *Summary of Hydro-Electric Powers Developed.*

The total estimated water powers of Canada aggregate some 18,800,000 h.p., divided approximately as follows:

	Per cent.	H.P.
Ontario	31	5,800,000
Quebec	32	6,000,000
Manitoba, Saskatchewan, Alberta and North-West Territories	18	3,500,000
British Columbia	16	3,000,000
Remainder of Dominion	3	500,000

Of the available power in the various portions of the Dominion, the following percentages, approximately, have been developed:

	Per cent.
Ontario	13
Quebec	9.5
British Columbia	7.0
Remainder of Dominion	2.5

The total development is about 10 per cent. to 12 per cent. of the whole available supply, amounting to some 2,310,000 h.p., of which quantity slightly under 10 per cent. is exported to the United States. Some notable developments in the country are as follows:

Quebec:	H.P.
Shawinigan Falls	200,000
Grand Mere Falls	125,000
Gres Falls	75,000 (under construction)
Cedar Rapids	120,000 (final, 180,000)
Chambly	20,000
Lachine	13,000
Soulanges Canal	13,000
St. Timothee	20,000 (final, 50,000)
Seven Falls	15,000 (under construction)

Several smaller plants are in operation, some of them on power sites capable of immense development.

Ontario:	H.P.
Chaudiere Falls	36,000
Lake Huron tributaries	56,000
Lake Superior	20,000
Rainy River District	22,000
Niagara Falls—	
Canadian Niagara Power Company	100,000
Toronto Power Company	125,000
Ontario Power Company	210,000

The Ontario Power Company is now owned and operated by the Hydro-Electric Power Commission of Ontario.

In Manitoba, the Winnipeg Municipal Plant and the Winnipeg Electric Railway Company's plant are capable of generating 80,000 h.p. In British Columbia there are several large developments, as follows:

	H.P.
Kootenay and Kettle River	23,000
Lake Buntzen	84,500
Stave Lake	26,000 (26,000 being added)
Jordan River, Vancouver Island.	25,000
Powell River	24,000

[At this point detailed attention was given by Prof. McLennan to the work of the Hydro-Electric Power Commission of Ontario.]

Electro-Chemical and Other Industries

In closing the paper, I cannot do better than call your attention briefly to some of the technical and industrial consequences of the development of hydro-electric power in Canada.

In general, when a power has been developed in the past, the supply of energy rendered available was far in excess of the requirements of the local community for light and mechanical power in manufacturing industries. This state of affairs led to the erection of extensive and important electro-chemical works which need large blocks of cheap power to meet their technical requirements. Examples of this development are found in the Niagara peninsula, and in the developments on the St. Maurice River in Quebec.

Among the great works in the Niagara district a number are worthy of special mention. The American Cyanamide Company, which also has extensive works at Muscle Shoals, Alabama, has a capacity in its Canadian plant for producing about 64,000 tons of cyanamid per annum. Among its products, in addition to cyanamid, are ammonia, nitric acid, ammonium nitrate, cyanides and argon. It has recently erected works on the New Jersey side of New York Harbor for the manufacture of ammonium phosphate, sulphate of

ammonia and ammoniacal liquor. The supply of cyanamid for the New York works hitherto has been drawn largely from the Canadian works, but the supply will now be supplemented by the product made in Alabama. The phosphate rock used in making ammonium phosphate, I may add, comes from a mine the company recently acquired and is operating in Florida. There is also the Canadian Aloxite Company, whose product is carborundum, and the Acheson Graphite Company, which supplies large graphite electrodes for electric furnaces.

The Turnbull Electric Metals Company supplies low phosphorus content pig-iron, and the Exelon Company silicon carbide.

The Union Carbide Company has an output of calcium carbide of approximately 125 tons per day, and the Electro-Metals Company manufacture on a large scale ferro-silicon and electric furnace electrodes.

The Riordan Pulp and Paper Company has developed a plant for manufacturing calcium chloride from lime and salt for bleaching purposes, and as a by-product it produces caustic soda to the extent of about 35 tons per month.

In the River St. Maurice district we have, at Grand Mere Falls, the Laurentide Pulp Mills, producing about 250 tons of paper per day. At Shawinigan the Northern Aluminium Company and the Belgo-Canadian Pulp and Paper Company, have very extensive works. The Shawinigan Electric Metals Company is a product of the war, and produces large quantities of magnesium of a guaranteed minimum purity of 99.5 per cent.

The Canadian Carbide Company and the Canadian Electrode Company have large plants as well; but of all the developments which have taken place at Shawinigan, the activities of the Canadian Electro Products Company are, from a scientific point of view, probably the most interesting. This company, under the direction of Mr. H. W. Matheson, has developed a process for making acetic acid, acetone, and allied chemicals, synthetically from acetylene gas. Its present plant, which is the largest of its kind in the world, was commenced in May, 1916, and the first acetone was turned out in December of the same year. The complete plant consists of twelve buildings, representing an investment of approximately $2,000,000.

With reference to the process itself, this consists of:

(1) The conversion of acetylene gas to acetaldehyde in the presence of sulphuric acid and a mercury salt. The acetylene gas used in this process is generated in what is probably the largest acetylene gas-generating station in existence.

(2) The acetaldehyde is converted to acetic acid by oxidation in the presence of a catalyser.

(3) The glacial acetic acid is decomposed in the presence of a catalyser into acetone. One of the most striking features of the new process is the fact that glacial acetic acid of over 99 per cent. strength is obtained from the stills on the first run, thereby assuring quick and economical production of this very essential product. As air is used in this process for oxidizing the acetaldehyde into acetic acid, vast quantities of high purity nitrogen are left over, and at present are allowed to go to waste. With the supplies of calcium carbide available at Shawinigan, we may expect to see this nitrogen used before long for the production of cyanamid, ammonia, and nitric acid, ammonium nitrate and cyanides.

In dealing with the industrial development at Shawinigan, one cannot help referring to the new and vastly better conditions of living which the introduction of hydro-electric power assures for mankind. The town of Shawinigan is typical. It is scarcely twenty years old. It is beautifully situated among the Laurentian Hills. Here there is no smoke to darken the sky. The streets are well paved, and the houses are attractive architecturally. An elaborate town-planning scheme has been adopted, and all community and private property conforms to it. Large sums have been spent on community enterprises, including clubs, auditoriums and schools. As the industries are all highly technical, a minimum amount of unskilled labor is required. Large numbers of technical engineers of all grades are employed, and these, from the nature of their work and from the attractive surroundings, find their life a very profitable and a very happy one.

Had time permitted, reference might have been made in detail to interesting developments which have taken place in regard to the production of alcohol in Canada. This country, as you know, has gone "dry," with the result that all the distilleries are now directing their attention to the production of alcohol for industrial purposes. At present alcohol is being made from grain, molasses and potatoes. This, of course, involves a great waste of valuable food products, and, as the molasses is all imported, the industry, from a national point of view, is not economically sound. The Advisory Council on Scientific and Industrial Research is directing attention to this matter, and we shall probably see an atempt made soon to utilize the sawdust and wood waste of British Columbia, Ontario and Quebec, as well as the waste sulphite liquor from the pulp mills of these Provinces, for the production of alcohol in considerable quantities.

Shorter Hours in Ontario Shoe Factories

Action of Shoe Manufacturers' Association

AS a result of a series of meeting culminating in the latest held in Kitchener recently, the Ontario Shoe Manufacturers' Association are able to announce that practically unanimously throughout the shoe factories in Ontario, on or before June 1st, 1919, the hours of labor will be forty-nine and a half per week. This decision will affect about 3,500 workers.

The successful outcome of this movement is a considerable triumph for the capability, which amounts almost to a special genius, of Canadian business men to sit down together and reach a reasonable solution of any difficulty that may arise in a fair and business-like way.

The relations between employers and employees in the shoe industry have always been of the most cordial character. Few difficulties have arisen that have not been settled in an amicable spirit.

Since last June the matter of standardizing conditions has been under consideration. Various committees have been giving the different phases of the subject full consideration, and their reports have been fully discussed at representative meetings.

Owing to the fact that only about a fifth of the shoe workers had formal organizations through which they could be represented, a considerable part of the negotiating had to be done by individual firms taking the matter up with their employees and then reporting for action on a common basis.

At one of the meetings great stress was laid by the workers' representatives of the desire of the employees to have shorter hours of work in a day. Three reasons were advanced for this, two of which were somewhat contradictory. First, it was felt that the workers had something due to them out of the war. They should have more leisure time at their dis-

posal for self-improvement and social welfare in accordance with what they felt was the spirit of the times. Second, if fewer hours were worked, and production thereby decreased, the problem of replacing returned soldiers who wished to get back into the shoe trade would be more easily solved without creating disturbance among those workers who had been engaged in the trade during the war. Third, they stated that the hours would be slightly reduced without hardship or increased cost to the manufacturer, because production could be maintained on the same level as in working the slightly longer hours.

The two latter reasons are contradictory, and it was the last one that seemed to have the greater emphasis placed on it by the workers' representatives during the discussion.

At this meeting the whole economic situation was thoroughly gone into, and the matter of competition arising from outside the territory of the present enquiry where longer hours were in force and cheaper labor obtained, or where the productive units were so large that overhead costs and unit costs per pair were lower, thus creating favorable conditions for formidable competition.

The question was discussed most frankly and freely on both sides with an absence of suspicion that is becoming more and more characteristic of gatherings of this kind. A minority, however, seemed very determined about the institution of a forty-four hour week. The granting of this request seemed for the present a practical impossibility as there is a serious shortage of shoe workers in the province. Various firms reported a condition which showed that even working fifty-five hours per week they were unable to get within 20 per cent. or 30 per cent. of the production they desire, and no skilled shoe workers are available to enable them to get higher production by increasing their staff.

About seventy-five per cent. of the factories in Ontario are working the fifty-five hour week or longer. Anything more than a ten per cent. reduction in working hours might prove a serious blow to the whole industry, since it is yet to be proved that production can be maintained on the lower hour basis. The manufacturers, however, are confident that this forward step they have made will increase the co-operation they receive from the employees and will strengthen the cordial bonds between them.

The weekly earnings of the employees will not be lessened. Owing to the different systems in vogue of settling earnings in the different factories, no general rule can be laid down, but it is certain wages will be at least maintained at their present high level.

Manitoba's New Industrial Conditions Act

By H. MACDONALD
Secretary, Legal Department, C.M.A.

SIGNIFICANT steps towards greater intimacy in industrial relations are being made in several fields of Canadian industry. It is an encouraging sign of the times that the sanest employers and the ablest labor leaders manifest this spirit in increasing degree. Even if they consider nothing but their own interests, they will not allow what are often unimportant disputes to grow into strikes and lockouts.

The "Industrial Conditions Act," passed at the recent session of the Manitoba Legislature, recognizes in concrete form that the public interest requires that disputes between employers and employees, which retard industrial development, should be prevented or settled speedily without interruption to industry. This Act represents the first statutory enactment by a provincial government in Canada, providing simple and effective machinery looking to the settlement of industrial disputes by the appointment of a joint council of industry, subject to statutory control. The council consists of five persons—two representing employers engaged in industry in Manitoba, and two representing employees, with a chairman, who shall be an impartial person. The members of the council shall hold office during the pleasure of the Lieutenant-Governor in Council, and shall be suitably remunerated, the council being furnished with necessary office, accommodation and equipment for transacting its business.

The joint council shall have jurisdiction to investigate industrial disputes, the cost of living of employees, and shall encourage the foundation of co-operative organizations. The council shall also, from time to time, investigate the conditions of employment, housing, rates of wages, general hygienic conditions, and educational facilities—in short, shall act as a local authority on general welfare, on behalf of industrial workers.

Further, the council will be ready to render assistance as it may deem necessary, to enable employees to secure redress against oppressive or unfair treatment by an employer of his employee, and may direct a formal complaint against an offender before a court of competent jurisdiction.

The joint council shall make public all its reports, but in no case shall a decision be finally adopted by the council until after a duly advertised public hearing shall have been held, at which any party interested in the matter, or any citizen, shall be free to appear. The council shall have all such powers usually vested in any judge in civil cases, including the compulsory attendance of witnesses.

At the request of the parties to an industrial dispute, the council shall act as a board of arbitration and when so acting, shall exercise the powers of a civil court.

Among the advantages to be derived from the Act will be provincial uniformity of treatment and method, which could be effected only by legislation. Capital and labor are both under a moral obligation to consider the general public in relation to industrial disputes. Generally after a few hours' straight talk between the employers and the men, the representatives of both sides will find that their differences can generally be composed without subjecting the country to the alarm and dismay naturally provoked by the dread of a general stoppage of work. The lack of a proper industrial relationship is a matter of the most serious moment. Immediate effects of the form and character of industrial organization are greater and closer to the lives and happiness of all classes of citizens than even the form and character of the political institutions. Among workers of every class, there are constantly arising various questions for judicial settlement, which under present conditions, cannot speedily or satisfactorily be adjusted. To supply this want, the new Act of the Manitoba Legislature has been brought into effect. It seems apparent that we shall see more of this class of legislation.

The new Act was brought into effect by the Lieutenant-Governor in Council on March 29, when the Premier, Hon. T. C. Norris, requested the Prairie Provinces Branch, C.M.A., to name five gentlemen, two of whom would be appointed on the Council to represent the employers. At a meeting of the Executive Committee of the Branch, held on April 2, the following were nominated: J. W. Ackland, J. W. Ackland & Sons; D. J. Dyson, the Dyson Co.; L. R. Barrett, Vulcan Iron Works, Limited; W. R. Ingram, Swift Canadian Co.; E. Parnell, Speirs-Parnell Co.

Power Development in Maritime Provinces*

Hydro-Electric Power in Quantities Greatly in Excess of Immediate Needs Lies Practically at the Doors of Halifax, with a Similar Situation at St. John—Development Should Take Place at the Earliest Possible Moment Consistent with Economical Construction

By K. H. SMITH

District Engineer, Dominion Water Power Branch, Halifax

So far as actual power studies in Nova Scotia go, we now have made studies covering sites with a continuous twenty-four hour capacity of about 100,000 horse power for ordinary commercial purposes, in which machinery is not used continuously. This is about sixty-five times the amount of power used in Halifax during 1917, although the demand for power in Halifax has largely increased during the past year. It might be noted here that a power site practically anywhere in Nova Scotia is within easy transmission distance of some industrial centre or shipping point. With such an amount of power already in sight, we felt justified during the past summer in curtailing this feature of our work somewhat, although a considerable number of power sites, known to be of fairly large capacity, remain to be investigated.

Our stream measurement or hydrometric work, which as I explained to you at a previous meeting is the basis of all our work, has been continued as usual.

Work in New Brunswick

One of the most important steps during the past year was the extension of our work to the Province of New Brunswick by arrangement with the local government of that Province. A resolution of your organization adopted at the Sydney meeting, over a year ago, undoubtedly had much to do in such a move. It has been found that work of such a nature as we are carrying on, can be carried on most economically and most efficiently by a single organization in the Maritime Provinces. As yet I can give you no definite figures as to power sites in New Brunswick, although we have our stream measurement work well established.

Another important feature of our work during the past year has been the passing of an Act known as the "Nova Scotia Water Power Act." The actual operation of this Act depends on detailed regulations which are now under immediate consideration and will be put into force at an early date. No doubt some of you have already seen this Act. Briefly, it places in the hands of the Government, the power to administer and control all waters in the Province, whether for water power or other purposes. All interests in any water power site may thus be harmonized and the interest of the public at large in this natural resource maintained. To some, it may appear rather drastic in character, but when it is properly understood, I think it will be apparent that it goes a long way towards facilitating development in Nova Scotia, and will ultimately be for the benefit of all concerned. Similar legislation for New Brunswick is now under immediate consideration.

Speaking in general, now that peace has come, we may expect an improvement in the conditions for carrying on construction work and securing machinery and may reasonably hope to see some water power undertakings begun in the Maritime Provinces at an early date.

Already in Nova Scotia, our preliminary information concerning one site, or rather a combination of several sites, has been the means of detailed surveys being undertaken by thoroughly reliable and responsible parties, with a view to early development, providing the information secured is satisfactory. In several other cases too, applications for water power sites are merely awaiting the completion and adoption of the regulations I have already mentioned.

It is evident, I think, that the Governments of both Nova Scotia and New Brunswick are now taking an active interest in water power matters. I think too, they are moving along the right lines, though there may be differences of opinion on this point and also as to the rate of progress which is being made. There is this to be said, however, that water power developments are of such a nature that they should be undertaken only after the most careful study. Also, I have explained to you on a former occasion how we are handicapped by a lack of essential data, which can be secured only as time goes on.

I am sure your interest in this question has been appreciated and suggestions from you, either individually or collectively, would be welcomed by the officials immediately responsible. No person understands better than you manufacturers the part which power plays in all branches of industry. Just at the present time, it seems that the greatest service you can render in aiding the power situation in the Maritime Provinces, and thereby yourselves, is by personal and individual effort in bringing about a proper understanding of power questions, particularly in the two largest centres of this part of the country. An adequate power supply in these large centres would form the nucleus for a system of transmission lines radiating ultimately to the smaller centres.

One Central Power Plant

It has been demonstrated that hydro-electric power in quantities greatly in excess of its immediate needs lies practically at the doors of Halifax. A similar situation appears to exist with respect to St. John, although in this case our information is not yet so definite. Now from the standpoint of economy and satisfactory service, each of these communities can best be served by having only one power distributing system in each. In this way, all duplication of transmission and distributing plant, which must ultimately be paid for by the consumer, is avoided. Furthermore, where steam generating equipment is modern and efficient, it should be utilized in conjunction with hydro-electric developments. Such an arrangement makes service more dependable and obviates large additional capital expenditure in the way of duplicate transmission lines and hydraulic generating equipment, which might only be used for brief periods throughout the day. This last feature is important, in view of the load conditions which now exist and are likely to exist for some time in the two cities mentioned.

In my opinion, the question of securing a single source of power supply in each community and of bringing together all parties interested in a really constructive effort to arrive at a satisfactory solution of the power question in each place

* Paper read at the Amherst Conference of Maritime Manufacturers.

is more important than whether such a system is operated as a purely municipal enterprise or by a private corporation. This much is certain, that if the public, through their officials, will inform themselves and agree on a definite line of action, no private corporation can in this day and age stand in the way of its being carried out, whether or not the best arrangement is a purely municipal enterprise, a purely private enterprise working harmoniously with the public, or some sort of a combination of these two, is perhaps a moot question and cannot be decided categorically for all cases. Perhaps different communities with different sets of conditions require different treatments.

So far as your own action in these matters is concerned, those directly responsible would undoubtedly appreciate the formal and collective support of your body as expressed in formal resolutions, if you approve of the action taken to date. You have already assisted materially in this respect as noted. Otherwise, possibly individual effort along the lines suggested will be most effective for the time being.

First, let it be known that a hydro-electric supply of power can be obtained immediately for the larger industrial centres of the Maritime Provinces, and ultimately with these as a beginning, other centres may also be served. Scond, insist that hydro-electric development must take place at the earliest possible moment consistent with economical construction. Third, insist that this development must take place in conjunction with existing facilities for generating and distributing power from steam, in order that duplication of overhead and capital expenditure may be avoided and that absolutely continuous service may be assured.

If these principles are well understood, we may expect that all interests involved, including provincial and municipal governments, private corporations, either now operating or seeking to operate, will speedily reconcile their seeming conflicting but really mutual interests. Failing this, governments will be assured that they have behind them a solid public opinion in taking such drastic action as may be necessary in connection with reactionary private corporations. At all times, however, it should be understood that private capital, genuinely invested and honestly administered, will receive fair treatment. This last point is probably worthy of special emphasis in these times when in some places, quite contrary ideas are hampering development or even creating entire confusion.

Proposal for a Tidal Power Plant

By W. RUPERT TURNBULL

(The following article forms part of an open letter addressed by W. Rupert Turnbull, Rothesay, N.B., to the people of Nova Scotia and New Brunswick, and which has received a good deal of attention in the press of the Maritime Provinces. The material is published in INDUSTRIAL CANADA at the request of the Maritime Branch.—Editor.)

FOR many years before the war I studied the problem of a great tidal plant to give power to these provinces, and I think the best plan is to lay the whole matter before the people, in the most candid manner, and let them decide, through their legislative houses, whether they wish to take it up or not.

The situation just before the war (and I presume it is the same to-day) was this:

After many years of work on the subject I had invented a means of obtaining continuous (24 hours' service) electric power from the tides, which is thoroughly practical when the topography of the land is correct, and the rise and fall of the tides is sufficient, to provide a practical "head" of water.

We have these conditions combined at the mouths of the Petitcodiac and Memramcook rivers, opposite Hopewell Cape, and a "tide electric" plant built at this point would be capable of furnishing over 120,000 gross horse-power, without any dredging of the Memramcook, and up to more than 200,000 gross horse-power by dredging the Memramcook, as increasing demand would require, many years from the present time.

System Is Explained

To explain the system briefly, a dam is built from Hopewell Cape to Coles Head, on the eastern shore of the Memramcook river, and a wing-dam and "spillway" connect this dam with Folly Point. The Petitcodiac is thus made a high-level basin, which is filled at every high tide, by means of electrically operated gates; while the Memramcook river is thus made a low-level basin which is drained at every low tide by similar gates. The power-house, with its turbines and electric generators, would be located on the wing-dam, and the water from the high-level basin would flow through the turbines directly into the tidal source (the Bay of Fundy) from half tide to half tide (through the low-tide period) and into the low-level basin (the Memramcook river) from half tide to half tide (through the high-tide period), these changes being accomplished by electrically-operated gates in the spillway under control of the attendants, thus obtaining continuous "24-hour service" from the plant.

In 1914 I took out a Canadian patent on this invention, and after working out the general plans of the Hopewell Cape plant, I laid the whole matter before a firm of New York engineers (in April, 1915,) and asked for their very candid opinion and criticism. This firm is one that makes a specialty of hydro-electric plants and has had great experience with them.

After going over my plans and estimates carefully their decision was briefly this:

Cost of the Undertaking

The project is thoroughly sound from an engineering standpoint, but we rather doubt if the population served is big enough to make it an attractive proposition for capitalists, since the return on the original investment would be small for several years, and until, in fact, the population served had considerably increased, when the investment would pay well.

The layman will have no difficulty in understanding this when I explain that the chief cost of the undertaking is the great dam (about two miles long), and this dam must be built whether the output from the plant is small or great. It is proposed to run the first power lines from the plant at Hopewell Cape to both St. John and Halifax, and power would be available for all intermediate towns and villages; such as Hampton, Sussex, Moncton, Amherst, Truro, etc., etc., the total power at present required being in the neighborhood of 60,000 gross, or 30,000 net at delivery points.

Now the initial cost of the undertaking is about $7,100,000 (exact estimates cannot be given until the site of the dam has been explored by borings), and if $30.00 per horse-power a year was paid, in the average, for the power, the gross receipts of the plant would be in the neighborhood of $900,000 per annum. Of this annual income 7 per cent. of the initial cost should be put aside for depreciation and operating expenses, so that the net income would not amount to more than

about 5 per cent. to 6 per cent. on the original investment, and this would hardly be attractive to capitalists at the present time.

In the course of five to ten years, population would come to the cheap power (as it always does), and when the demand rose to 120,000 gross, or 60,000 net horse-power, the investment would bear an entirely different aspect.

In the building of the original dam provision would be made for the installation of all turbines up to the full capacity of the plant (about 200,000 gross horse-power), so that as turbines were added, as demand required, there would simply be the cost of the turbines and generators to add to the initial cost of the plant, and we would then have a total cost of say

rights of the Petitcodiac and Memramcook rivers and valleys, and, very fortunately, these local interests would be affected very beneficially.

The dam itself would form an important highway connecting Hopewell and Folly Point, with the eastern shore, and supplanting a ferry service that is exceedingly irregular and unsatisfactory on account of the high tides.

The waters of the Petitcodiac would be held in by the dam, and "the tide" would only rise and fall six to eight feet (instead of the thirty-eight to forty-five feet as at present), vessels would be passed through a lock in the dam, and there would always be water at the Moncton and other wharves on



Dam on Lequille River, Nova Scotia, for Annapolis Electric Light Plant

$9,500,000, and the depreciation and operating expenses, on this at 7 per cent. would be $665,000, while the annual income would be about $1,800,000, so that the net income would rise to $1,135,000 or 12 per cent. on the total capital expenditure of $9,500,000.

As the demand increased the proportionate deductions for depreciation and cost of operation decrease, and eventually the return on the capital expenditure would be a very handsome one, and the plant could afford to reduce its charge to $25 per horse-power a year, and eventually to $20, or even less.

However, "Capital" is proverbially impatient and is not willing to wait for long periods for the returns on its investments, and it, therefore depends on the governments and the peoples of the two provinces to provide the capital for this undertaking, if they really want cheap electric power at the present time.

The question will naturally arise as to how such a plant would affect the navigational, farming, fishing and other

the Petitcodiac, where, at present, there are mud-flats much of the time.

The Memramcook is almost entirely an agricultural valley, its navigation is practically nothing—its grass-lands are protected against the highest tides by means of dykes, and these are only opened about once in two years to allow the salt water to flow over the grass-lands and fertilize them. The building of the dam would make of the Memramcook a "low-level-basin" and the waters in this river would be abnormally low most of the time, but to accommodate the agricultural interests of this valley, it could be arranged to overflow the grass-lands by one high tide (say, once in two years, or once a year, as the majority of farmers decided necessary).

This operation would interfere with the working of the "tide-electric" plant for about six hours, but by selecting a suitable tide, this interruption need only occur between midnight and 6 a.m. (on the night selected) and notice could be sent to all users of electric current of the interruption.



Confidence!

THE confidence of a child is the confidence that knows no danger. Self-preservation is a dormant law at babyhood. Yet fear is one of the earliest instincts. It grips with the coming of stern realities. It grows with the passing years.

Children enjoy their play when fear is absent. Men work better when they know that their lives and limbs are protected. A feeling of confidence—of safety, permeates a factory that is well lighted and its machinery properly guarded.

Benjamin
PRODUCTS

Promote Industrial Safety

In hundreds of factories Benjamin Products are banishing the fear of accidents and replacing it with the confidence that reflects itself in better and more work.

Tests show that Benjamin Industrial Lighting installations mean a reduction of 25% in accidents, 12% more production and 25% less spoilage.

Benjamin Lighting Fixtures, Benjamin Punch Press Safety Devices, Benjamin Industrial Signals and various other Benjamin Products make "Safety First" more than a slogan.

The Satisfaction of Safety

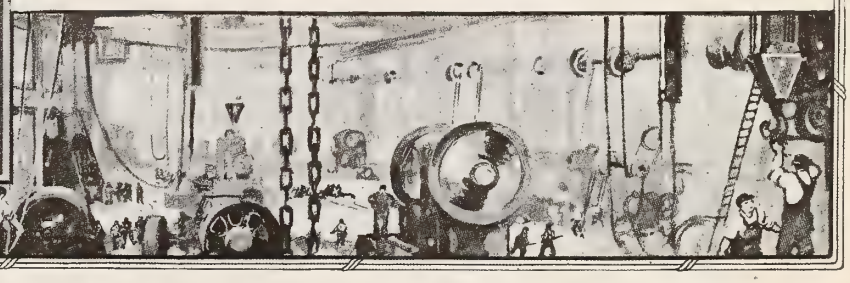
means happier and better workers. Dread, apprehension, alarm are deadly. They sap initiative—kill efficiency. Instill confidence in employees by guarding them; first, because it is a humane thing; second, because it pays. Let us explain the direct application of Benjamin Products to you.

Address

Benjamin Electric Mfg. Co. of Canada Limited
TORONTO

Benjamin Products Embrace

- Two-Way Plugs
- Wiring Devices
- Electrical Specialties
- Weatherproof Lighting Apparatus
- Gas and Vapor Proof Lighting Units
- Store and Office Lighting Fixtures
- Marine Lighting and Signaling Apparatus
- Porcelain Enameled Reflectors and Specialties
- Industrial Signals
- Automobile Specialties
- Benjamin Industrial Lighting
- Panel Boards and Cabinets
- Punch Press Efficiency and Safety Devices
- Drawings, Stampings and Spinnings in Sheet Metal
- Consulting and Engineering Service



Dunlop "Gibraltar"



"RedSpecial" Belting

BELTING STABILITY

There has been such uniformity of satisfaction following the selection of

DUNLOP
"Gibraltar RedSpecial"
—"THE ORIGINAL RED RUBBER BELT"—

that we feel our quarter-century policy of "Keep the Quality Up as Well as the Production" is being amply rewarded.

"Gibraltar RedSpecial" faces any kind of a test unflinchingly. The man who wishes to talk power, "duck," or elasticity can find ample sway for his talents in a comparison of "Gibraltar RedSpecial" with any other belting.

Minimum loss of power, Mastery of heavy loads and jerky strains, Highest quality of friction uniting the plies, Adequate weight, No stretching—these are some of the virtues of Dunlop "Gibraltar RedSpecial" Belting, proven in thousands of cases of actual use on Main Drives in Pulp and Paper Mills, Saw and Lumber Mills, Mines, Steel Plants, etc.; in fact, in any and every kind of transmission work.

The Dunlop Unreserved Guarantee

If you have a difficult drive anywhere in your factory drop a line to our Head Office, or to our nearest branch, and we will send a man experienced in belt engineering to consider your requirements. If it is an instance where "Gibraltar RedSpecial" Belting may be suitably employed we will recommend its use; and we will stand behind our recommendation with the fullest guarantee ever issued by a firm producing rubber products.

Dunlop Tire & Rubber Goods Co., Limited

Head Office and Factories: TORONTO BRANCHES IN THE LEADING CITIES

Makers of Tires for all Purposes, Mechanical Rubber Products of all kinds, and General Rubber Specialties

Clydesdale

MOTOR TRUCKS

MADE IN CANADA



CLYDESDALE 5 TON LORRY

The value of a Motor Truck to its owner is gauged entirely by the continuity of its operation.

CLYDESDALE TRUCKS are maintaining their record, earned all over the world, for continuous uninterrupted operation, low operating and upkeep costs. This is due to the perfection of design found in Clydesdale Trucks and the high quality of materials used.

CLYDESDALE TRUCKS are built by a Canadian Manufacturer, to a great extent from Canadian Materials. The Clydesdale plant was established here to better serve Canadian Manufacturers, and to give the best possible service to Canadian Users of Transportation.

CLYDESDALE TRUCKS must be seen to be fully appreciated. We would like to send you a catalogue and, if you will permit, show you a Clydesdale in actual operation.

THE CLYDE CARS COMPANY CANADA LIMITED

General Offices and Plant — 73-81 Pearl Street

TORONTO, CANADA

Transportation Items

Railway Act

Special Committee of the House of Commons Now Dealing with Contentious Clauses

The amended Bill to amend the Railway Act has passed the Senate, and is now before the Special Committee of the House of Commons. A great number of the sections have been passed, and the contentious items are now being dealt with. The sections now under consideration are numbers 5, 6, 95, 151, 312, 335, 357, 373 and 436.

In addition to the above there is an amendment proposed to section No. 34 by a special Bill, known as "Senate Bill No. 6," which has for its object the placing of water carriers under the jurisdiction of the Board of Railway Commissioners.

Export Rates

Reduced Rates to Pacific Coast Ports for Export to New Zealand, Australia and Oriental Ports, Effective

Reduced rates on a number of commodities will be published in Canadian Freight Association (G. C. Ransom) Tariff No. 9-A, effective on or about April 25th. These new rates will apply from Eastern Canada to Prince Rupert, Vancouver Wharf and Seattle (for export), and have been published in line with similar reduced rates which were placed in effect from Eastern United States points to the American Pacific Coast ports for export. Generally speaking, the articles covered and the rates for such articles, shown in the United States tariff, are as follows:—

Commodity.	Min. Wt.	Rate in cents per 100 lbs.
Agricultural implements	30,000	100
Canned goods	40,000	100
Chocolate	30,000	150
Dry goods	40,000	120
Plate glass	40,000	140
Window glass	50,000	110
Grading and road-making implements	36,000	100
Iron and steel articles	80,000	60
Pig iron	80,000	55
Ferro-silicon	80,000	55
Lead, pig	60,000	75
Lime	50,000	65
Machinery	36,000	100
Machines, sewing	30,000	110
Lubricating oil	30,000	90
Oil well supplies	36,000	100
Paint	40,000	70
Paper and articles of paper	40,000	90
Plumbers' goods	30,000	150
Railway equipment	50,000	75
Roofing, roofing material, etc.	40,000	90
Rope, wire	50,000	70
Soap	40,000	100
Sodium (soda)	60,000	60
Starch, dextrine, etc.	50,000	90
Steam or hot water heating apparatus	30,000	125
Tobacco, cigarettes	30,000	135
Tobacco, domestic	20,000	140
Vehicles, self-propelling	10,000	375
Chasses, tractors, trucks or wagons	12,500	300
Vehicles, non-self-propelling	24,000	140
Wax, paraffine	30,000	90
Wheelbarrows and carts	24,000	110
Woodpulp and woodpulp board	40,000	75
Zinc	60,000	80

New Weight Agreements

To be Put into Effect by the Canadian Freight Association on Eastern Lines

For a great number of years railways in Eastern Canada have carried certain classes of commodities at shippers' or estimated weights, such weights being covered by an agreement allowing the carrier to check up from time to time the different shipments in order to protect the legal charges. For some time the question of weight agreements at points west of Port Arthur has been handled on a uniform basis by the Canadian Freight Association on behalf of all the carriers in that territory. In order to bring about the same uniformity on eastern lines—that is lines east of Port Arthur —the Canadian Freight Association intends to place in effect about the 1st of May new uniform weight agreements. These agreements are two in number, one covering uniform or standard weight articles or articles sold by weight, and the other covering shipments weighed on private or industry track sales. The operation of these agreements will be under the direct supervision of Mr. P. K. Perry, Chief Inspector of the Canadian Freight Association, Union Station, Toronto.

Steamship Service to South America

Two Steamers Will Load at Montreal for South American Ports in May

The Canadian National Railways will place the Steamship *Canadian Pioneer* on the berth at Montreal to load for Buenos Aires, Argentine Republic, South America, about the 15th of May. This is the first steamer to be placed in this service by the Canadian National Railways, and it is expected that others will follow. Rates will be quoted to those interested upon application to W. A. Cunningham, 230 St. James Street, Montreal.

The Houston Line intend to inaugurate a service between Montreal and Buenos Aires, Argentine Republic and Montivideo, Uraguay, South America. The steamer to sail will be the *Clan Keith*, expected on the berth to load at Montreal about May 5th. McLean Kennedy, Limited, Coristine Building, Montreal, are agents for this Line, and will be glad to quote rates, etc., on application.

Steamship Service

The Canada Steamship Lines, Limited, announce the inauguration of a new service to France, beginning with a steamer sailing from Montreal on May 24th. It is hoped that this steamer will be followed by others at ten-day intervals. Information may be secured by application to the offices of the Canada Steamship Lines, Limited.

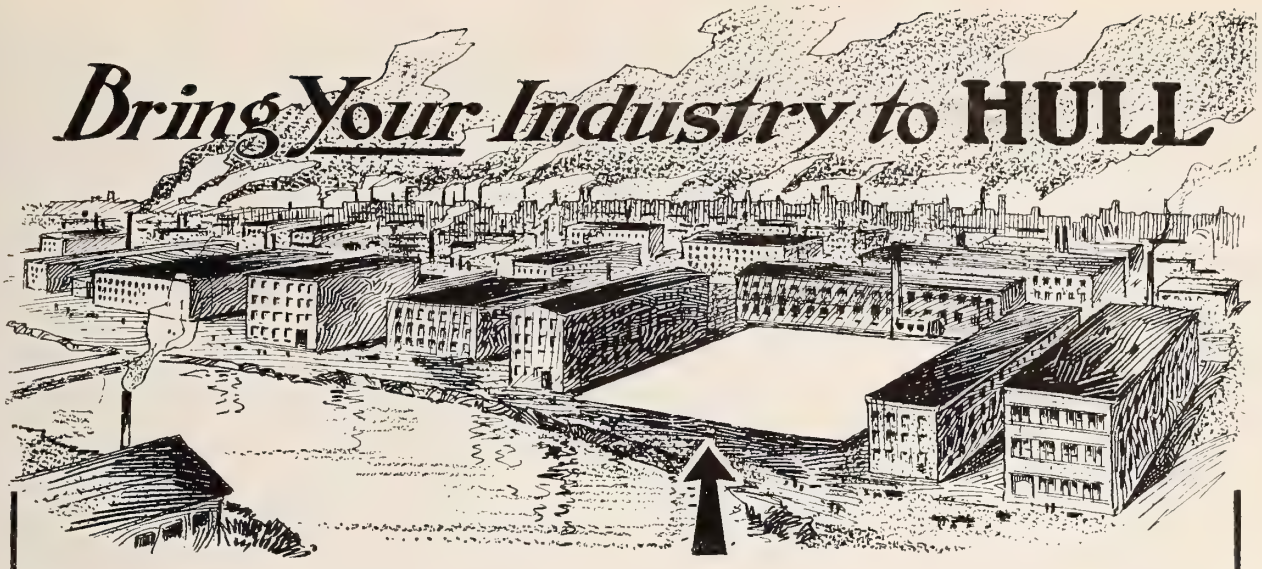
British Manufacturers in Canada

An Association has been Formed with Branches Located in Montreal and Toronto

The Canadian Association of British manufacturers and their representatives has been established with branches at Toronto and Montreal. Similar associations have existed in Australia and New Zealand for several years. The objects of the Association as set forth in the constitution are as follows: "To further the interests of British trade throughout the Dominion of Canada and to affiliate with and work in concert with kindred associations in other centres of the Dominion having similar objects."

Those interested in the formation of the Association naturally wish to increase Great Britain's share of the import trade of Canada. As Canada is buying a considerable volume of merchandise abroad each year, it is desired that the United Kingdom shall obtain a substantial share of that business. It is felt that the progress which Canadian manufacturers have made, especially during the past few years, will be exceeded by the manufacturing developments in Canada in the future. This is recognized as a welcome and gratifying feature, because as each unit of the British Empire becomes stronger industrially and agriculturally, each developing its resources, so will the great British Empire grow in stability, prosperity and influence.

No representative or agent of British manufacturers who enters into any agency agreement with, or in any respect represents any manufacturers or wholesale exporters whose principal works or place of business are situated in any country deemed by the Supreme Council to be or to have been hostile or unfriendly, will be entitled to membership of the Association.



Your Factory Fits *RIGHT* Here

HULL wants new, progressive industries and its Council offers unusual co-operation and encouragement to every new industry locating within its borders.

Consider Hull's tax exemption, its cheap power, low assessment, cheap factory sites, not forgetting the other inducements offered, and you will admit that Hull holds the premier position for locating your factory.

There is a population of more than two hundred thousand within a 2½ mile radius of the centre of Hull.

Hull is a splendid place to live in—a real growing metropolis with all the social advantages assured by a progressive and prosperous community.

There's more to Hull than we have space here to tell. Let us explain to you in detail all particulars. You are invited to send for illustrated literature.

Consider These Advantages

Hydro-Electric power as low as $12 per H.P. per year.

Plenty of labor (population 200,000 within 2½ miles).

Low fixed assessment on land for 15 years.

Low tax rate.

Tax exemption for 15 years on improvements.

Cheap factory sites including water-front sites with private power development privileges.

Shipping facilities over 11 steam railway lines and by river and canal to the seaboard and great lakes.

Write for Full Details

W. F. Hadley
Industrial Commissioner
Hull, Canada

One dominating factor should determine your selling prices

An accurate knowledge of your costs

You can gauge the cost of your raw materials.

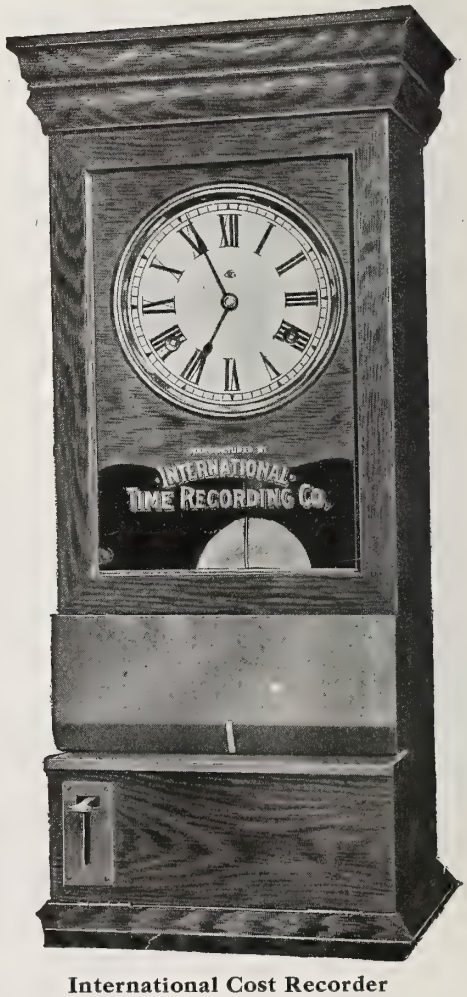
You know your overhead.

Do you know what your labor costs you?

Do you get machine-made records of time-per-job or do you trust to "average time" or foremen's pencil records?

Do you know that 90% of manufacturing failures are due to an inaccurate knowledge of costs?

In some plants a few products have to carry the entire cost of other products which show no profit. How about your plant?



International Cost Recorder

The International Cost Recorder

will give you a printed, unchangeable time record of the labor time spent on every job. Labor costs are going up, not down. You must have machine-made records of labor time if you want to know where you stand.

Let us send you folders and prices

International Business Machines Co., Limited

(TIME RECORDER DIVISION)

Head Office and Factory TORONTO, ONT.

Also at Montreal, Winnipeg, Vancouver

FRANK E. MUTTON, Vice-Pres. and Gen. Mgr.

We also make Dayton Scales and Hollerith Electric Tabulators

TIME!



At the foundation of every success you find an appreciation of the value of Time.

Time makes or mars all things. Without a due regard for Time nothing is possible.

The Spaniards' "Manana"

There is a Spanish saying—"Manana," meaning "to-morrow." "Yes" says the Spaniard to every suggestion you make, "that is an excellent plan. We will certainly do it—'Manana.'" But to-morrow never comes. The inexorable scythe of Time falls. To-day Spain is one of the backward, the decadent nations—her real history is the account, not of battles and Kings, but of lost opportunities.

Waterloo—lost "on time"

The Battle of Waterloo was lost because General Grouchy failed to realize the importance of time. Hour after hour Napoleon had hurled his forces on the thin red line of the British, pitting against bull-dog, indomitable courage his, the greatest military genius, that ever lived. And then the moment came for the master stroke. That moment had been foreseen. General Grouchy had long before received his orders to throw in the reserves at a given time. But he was a quarter of an hour late in doing so, and the battle was lost and the destinies of the human race changed for all time. It was not that Grouchy was lacking in ability. Again and again he had proved himself a brilliant soldier. Napoleon's incomparable genius never made a mistake in his man. But when the fate of empires hung in the balance Grouchy underestimated the value of fifteen minutes. Time's scythe fell and swept away the beaten hosts.

Time—the great "raw material"

Turn for a moment to the consideration of modern manufacturing. The two great factors in the production of goods are raw materials and labor Time. There is a sum for which any given manufactured article can be profitably sold—if the time consumed in making be reasonable. But for every moment over this the profits dwindle. Then Time's scythe swings down, and they vanish. A great publisher had said—"Of all my raw materials the two of primary importance are paper—and Time. The paper I can have tested. But how shall I analyse the time I buy, or measure its quantity? It eludes the test tube. The time sheet is subject to human error, and is a frequent cause of complaint."

The International Time Recorder

To that question an answer can be given. The International Time Recording System does accurately, automatically, scientifically, the work of the gauge and the scales. It presents you day by day, or week by week, with a printed analysis of the time you have bought, and enables you to pay each employee exactly what he has earned. It does more. The test-tube at its best can only determine the quality and the scales the measurement. But the International Time Recorder not only records, it influences. The record the employee prints himself induces punctuality, makes for discipline, and eliminates one great cause of friction—***disputes over working time.***

No matter what business you are in, we have a Recorder that suits your business. We make Time and Cost Recorders, Master Clocks, Secondary Clocks, Program Devices, Whistle-Blowing Devices, Time Stamps, etc., etc. Let us demonstrate how we solve the problem of the labor time element for you.

International Business Machines Co., Limited

(TIME RECORDER DIVISION)

Head Office and Factory
TORONTO, ONT.

Also at
Montreal, Winnipeg, Vancouver

FRANK E. MUTTON,
Vice-Pres. and Gen. Mgr

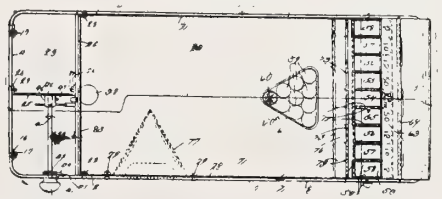
(We also make Dayton Scales and Hollerith Electric Tabulators)

PATENTS FOR SALE

Patent applications through
Harold C. Shipman & Co.
Patent Attorneys - Ottawa, Canada



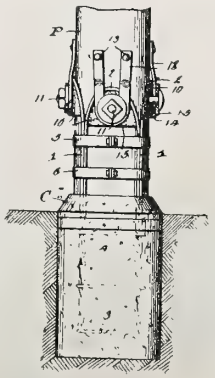
CLEANING ROD FOR GUNS, for establishing a ready and positive securement used in cleaning guns. The patch is wound about and interlocked with rod to prevent displacement. Can. and U. S. Patents for sale. Fred D. Brooks, Richfield, Idaho, U.S.A.



GAME APPARATUS, which is inexpensive to manufacture and will give the players a great deal of amusement and pleasure. The game may be easily and quickly disassembled so as to pack in small compass when not in use. Can. and U. S. Patents for sale. Michael F. McGowan, 829 Burwell St., Bremerton, Wash., U.S.A.



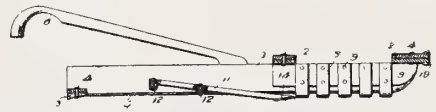
FUME ARRESTER FOR SMELTING PLANTS.—Gathers up all smoke and fumes from furnaces of smelting plants and causes same to pass from the furnaces by a suction of a suitable fan or other compressed-air device. Can. Patent for sale. Antonio Ferrari, Collinsville, Ill., U.S.A.



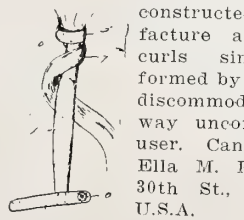
POST BASE.—To produce a reinforced concrete base adapted to rise slightly above the ground and having means for detachably connecting a post or pole therewith above the ground without interrupting the position of the base or altering its parts. Can. and U. S. Patents for sale. P. Hollingsworth, Clarkestown, Wash., U.S.A.



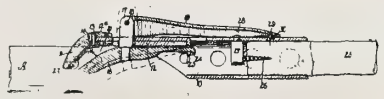
SELF-LUBRICATED SPRING FOR VEHICLES, interposed between the ends of the spring and the chambered bolts therein, same being adapted to allow the lubricant to flow therethrough to the leaves. Can. Patent for sale. John C. Dowd, of 122 E. Park Ave., Merchantville, N.J., U.S.A.



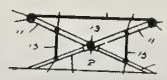
CULTIVATORS, provided with runners and arrangement of subsoil cutters, knife or plow, screen, mulcher, and smoother by which any crop may be cultivated and left with a dust mulch on top. Can. Pat. rights for sale. A. J. Anderson, Bellingham, Wash, U.S.A.



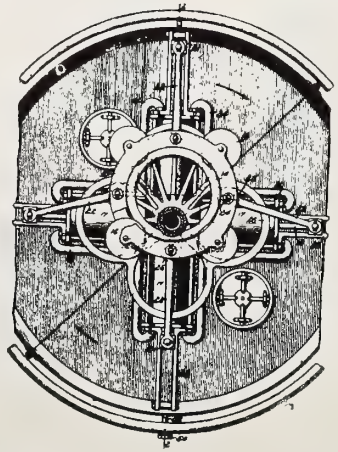
HAIR CURLER.—Is simply constructed, cheap to manufacture and will produce curls similar to those formed by nature. Will not discommode or be in any way uncomfortable to the user. Can. Patent for sale. Ella M. Pickard, 1527 W. 30th St., Oklahom, Okla,. U.S.A.



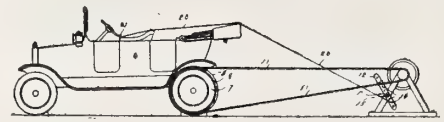
ATTACHABLE HANDLES.—Especially adapted for use on dishes, shallow pans and the like for frying over camp fires. Can. and U. S. Patents for sale. Arthur W. Dye, 27 Burlington St., Gloversville, N.Y., U.S.A.



COLLAPSIBLE COT.—Cheap to manufacture, durable, substantial in design and can be quickly and readily collapsed into a compact bundle so as to occupy a minimum amount of space. Can. Patent for sale. John A. Juten, Gilbert, Minn., U.S.A.



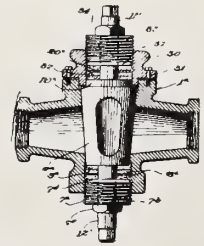
ROTARY ENGINE.—Can. Patent has been granted to Axell Watterberg, Sanish, North Dakota, on improvements in rotary engines. The axle protruding to the side and rotated so that anything can be connected directly to it without any gearing. It works as efficiently on the reverse as on the forward motion. Dominion Patent for sale by the inventor.



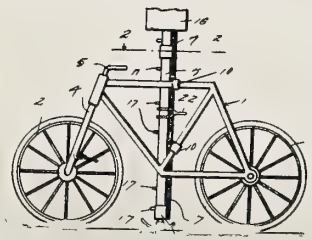
A POWER TRANSMITTING MEANS for an automobile that may be controlled from the machine being operated. This attachment can be readily and quickly set up and dismounted. Can. and U. S. Patents for sale. Wilfred Quenneville, Morrisburg, Ont.



BELT TIGHTENER, particularly adapted for use in tightening belts of comparatively small machines, such as grinding machines, milking machines or small farm implements. Pat. rights for sale. B. Roberts, Bradford, Ont., Canada.



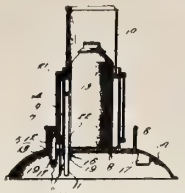
STOPCOCK, which may be packed at both ends, making it unnecessary to drive the plug into place to stop leakage, as is now the custom. As there are no threads or nuts on the bottom end a hammer may be used without damaging the parts. Can. Patents Nos. 188,110 and 181,111 granted to F. C. Heylman, P.O. Box 702, Martinez, Cal., U.S.A.

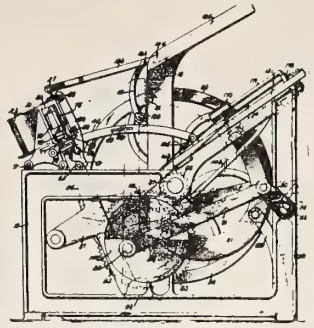


FOUNTAIN BRUSH.—To provide a simple, practical and comparatively inexpensive wheeled fountain brush designed for painting fences, white-washing and coating wire, etc. Can. and U. S. Patents for sale. William F. Kuck, P.O. Box 97, Bourbon, Ind., U.S.A.

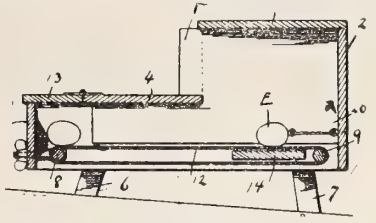
When writing advertisers, please mention INDUSTRIAL CANADA

LANTERN.—So designed to display different colored lights for signalling purposes, having a number of removable transparent cylindrical members adjustable to and from the burners. Patent in Canada for sale. Joseph N. Klema, 1311 Hope St., Austin, Minn., U.S.A.





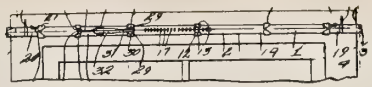
PRINTING PRESS.—Designed for use by business concerns using periodically a large number of bills being arranged to simultaneously print the body and the stub of the business instrument together with the name of the party for whom the instrument is intended. Particulars may be had by applying to Messrs. Harold C. Shipman & Co., Ottawa, Canada. (1018).



TRAP NEST FOR HENS, having a laying chamber, an egg receptacle in such relation that the eggs as laid will themselves roll into the receptacle, thereby removed from breakage or interference on the part of the hens. Can. Patent for sale. John A. Jones, Farmington, Me., U.S.A.

SANITARY SPUTUM-CUP.—Shows a complete metal cup with a snug fitting inner paper cup, saturated with a germicide. It will destroy the germs in the sputum and enable the attendant to handle it without fear. Can. Patent for sale. Lena B. Ashby, Homer, Ken., U.S.A.



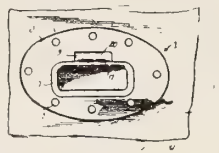


WINDOW SHADE HANGER, having sections which are adjustably connected, including yieldable means, whereby the hanger may be yieldably clamped to the window frame. Can. Pat. rights for sale. Dr. Wm. Kemble, 129 Clinton Ave., Kingston, N.Y., U.S.A.



SHIPPING RECEPTACLE FOR AUTOMOBILE TIRES.—For small lots of tires, whereby the packages may be made up quickly, conveniently, at a low cost, and will be adequately protected against damage during shipping, eliminating the necessity of wrapping tires in burlap or other such protective sheathing. Can. Patent for sale. Wm. R. Busenbark, of Akron, Ohio, U.S.A.

TRUNK HANDLE, or the like, which, when not in use, will lie in a closed position, so that it will not be struck, and may be readily extended when desired to lift the trunk. Can. Patent for sale. J. O. Wiley, Lebanon, Ore., U.S.A.





ADJUSTABLE WRENCH.—New and easily adjusted by means of a toothed lever, said lever being pivotally mounted. This wrench can be adjusted to receive any type or size of nut, and is cheap to manufacture. Can. patent rights for sale. D. Forniraseo, Klamath Falls, Ore., U.S.A.

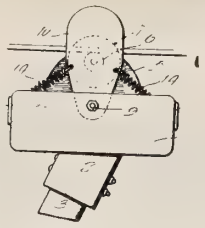
MARBLE PROJECTOR.—Canadian Patent granted Peter M. Knudsen, on the above invention. This article is cheap to manufacture, and should prove a good seller. Further particulars may be had by applying to Mr. Knudsen, Cartwright, N.D., or his attorney, Mr. F. V. Winters, 125 E. 23rd St., New York.

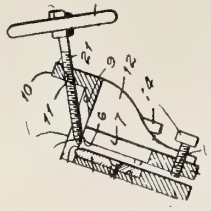




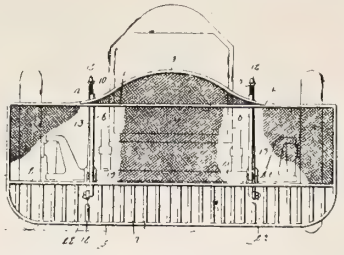
TURN-TABLE LOCK, having the locking means so connected as to permit of the latch bolts being automatically operated, thus preventing any accidental movement thereof and causing derailment of locomotive. Can. Patent for sale. C. E. Farr, Madison Station, Miss., U.S.A.

TROLLEY HEAD AND GUARD for preventing the trolley from slipping off the wire, said guards yielding when the trolley passes over a cross wire and being mounted independent of each other on both sides of the trolley wheel. Can. Patent for sale. Absalom D. Shaffer, Kittanning, Pa., U.S.A.



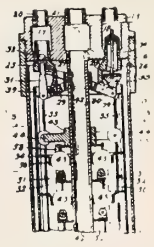


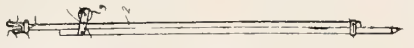
SAW SET.—Effectively sets the teeth of all kinds of saws without danger of injuring same, and is so constructed that it will hold the saws firmly in place and against accidental movement. Can. Patent for sale. J. A. Ferguson, Box 271, Plummer, Idaho, U.S.A.



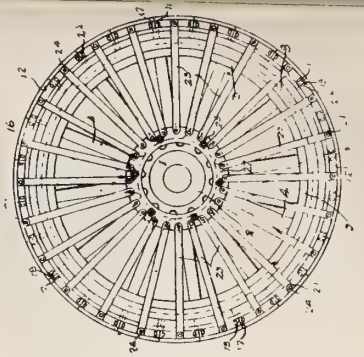
AUTOMOBILE FENDER, so constructed that the impact of a person or object against the fender is yieldably or flexibly sustained, enabling a person to be picked up without injury. Can. and U. S. Patents for sale. Nettie Weiss, 1725 Market St., Harrisburg, Pa., U.S.A.

WATER ELEVATING APPARATUS. — Can. Patent has recently been granted on the above construction to Mr. George F. Van Brunt, of Kewanee, Ill., U.S.A., who offers Patent for sale. This invention gives to farmers and others the conveniences of fresh running water at a very small cost.





CLOTHES-LINE PROP. — Simple and efficient; is provided with means for locking the sections in adjusted positions when the prop is supporting a line. Canadian Patent for sale. John C. Stillman, Appleton, Wisconsin, U.S.A.



The frequent complaints of surveyors and roadmasters and the great disadvantages under which these officials are placed during the spring and autumn seasons of the year owing to the condition of rural and country roads through the deep ruts caused by pneumatic tires in highways much travelled by automobiles and motor vehicles, and the consequent holding of rain water in the crown of the road, has given rise to much thought and lengthy discussions amongst municipal and other bodies interested in public road maintenance.

In the full enjoyment of paved streets and macadam roads the city or town dweller has but little thought for country road conditions, but the maintenance of the national highways is an important factor in the lives of dwellers and business men living and operating in rural districts and throughout the western provinces, where the automobile is an essential item in transportation and business of all kinds.

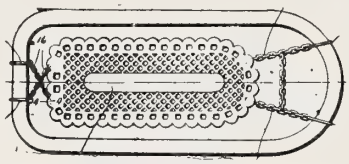
Bad road conditions are frequently aggravated by the difference in the treads or tires of the wheels of vehicles passing and repassing over the same highway, and the call is growing for a universal tire or tire-tread which will not only minimize the damage to the road-head but will also assist to pack it. The wheel construction here illustrated relates particularly to automobiles, and provides a tread which can be readily attached to the automobile wheel once the pneumatic tire is removed. The tread gives a wide bearing surface much in the nature of a traction wheel, thereby allowing the use of the automobile in all seasons and all conditions of roads. This tread has been designed by Mr. Wm. P. Spooner, of Webb, Saskatchewan, Canada, and is so constructed in a sectional manner that it can be readily assembled and adjusted to accommodate the varying diameters of automobile wheels.

This tire-tread meets the difficulty—the square head packing the roadbed while the half round pneumatic tire destroys it. The great bearing surface provided also enables the automobile or motor vehicle to carry the load better during the seasons referred to or over the winter snow. Further details may be obtained by communicating with the designer, Wm. P. Spooner, of Webb, Saskatchewan, Canada, or to his attorneys, Messrs. Harold C. Shipman, of Ottawa.

Manufacturers—Let us know what line of patents you are interested in, so we can send you copies from time to time.

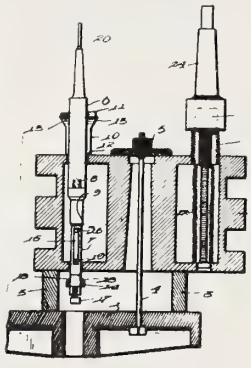
When writing advertisers, please mention INDUSTRIAL CANADA

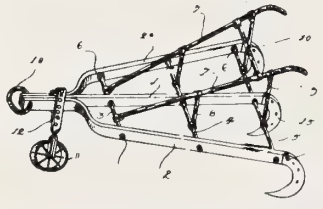
PATENTS FOR SALE



SAFETY BATH-TUB MAT, composed of rubber or rubber composition, has suction anchors and safety chain attachments. It is flexible, easily rolled, and is very convenient, sanitary for travelling, and is recommended for hospitals and sanitariums as well as for home use. Can. and U. S. Patents recently granted to Lavinia D. Tolley, 130 Lavergne St., Algiers, La., U.S.A., are for sale.

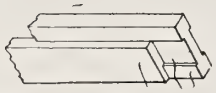
PISTON HEAD PLUGS, so arranged as to prevent loosening of the plug in the cylinder head of an engine and consequently entirely eliminating damage caused by such loosening. This patent 174,717 is interdependent on Can. Patent 188,204 held for sale by the inventor, Mr. B. W. Berry, 1250 Eighteen St., Portsmouth, Ohio.

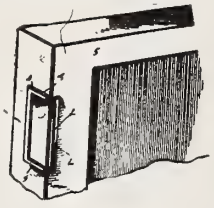




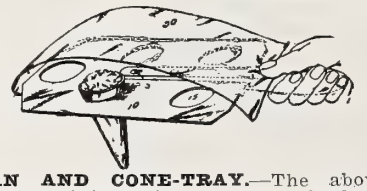
PLOUGHS AND CULTIVATORS.—Above illustrates an improved construction in ploughs and cultivators, and has for its object a device which can be easily converted from a grubbing implement to a plough. The invention is provided with a set of spaced bars having curved ends adapted to receive grubbing or ploughing members, whilst suitable handles and levelling wheel are mounted on the bars. Patent rights for sale or royalty. John C. Buell, Varilla, Kentucky, U.S.A.

FRAMES FOR WALL OPENINGS in doors which, with but slight and simple alterations, lends itself to various types and sizes of frames, and which requires but a minimum amount of cutting in forming a frame. Can. Patent for sale. Daniel M. Kelly, Cairo, Illinois, U.S.A.



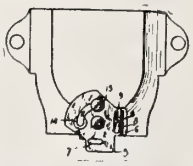


GAGE.—Adapted for use in hanging doors for indicating the extent of the wood to remove for the reception of the hinge. Patent in Canada for sale. Gunvald Holt, 1459 8th St., Greeley, Colo., U.S.A

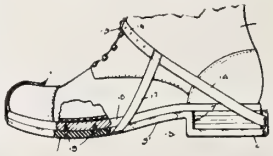


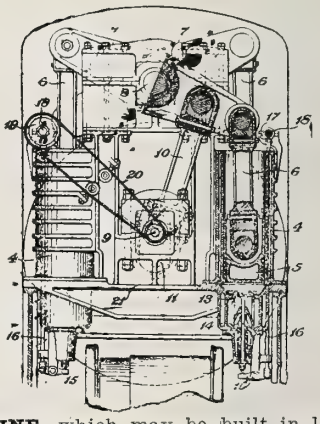
FAN AND CONE-TRAY.—The above illustrated invention has recently been patented in Canada by Mr. Harry F. Smith, 1100 Bushkill St., Easton, Pa., U.S.A., who is open to negotiations for patent rights or for rights to manufacture under royalty. The invention is to provide an attractive advertising novelty.

NEEDLE PLATE FOR SEWING MACHINES. — Is adapted for leather sole stitching or rubber and composition sole stitching, adjusted instantly for either work by loosening the screws a little way and turning the plate to the required position. Can. Patent for sale. George Schroder, South Berkeley, Cal., U.S.A.



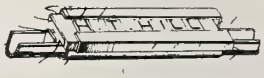
DETACHABLE SOLE FOR SHOES, the object of which is to provide a sole which may be quickly and easily adjusted to the shoe on a person's foot to protect the floors from shoes having hobnails or calks. Can. Patent for sale. Prokop G. Knizak and Bart Javorsky, 1505 5th St., Chehalis, Wash., U.S.A.





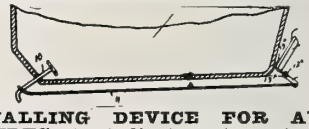
ENGINE, which may be built in large sizes up to 2,000 h.p. or more and yet be contained within the usual clearance limits of standard locomotives, having all the moving parts counterbalanced by other moving parts so as to eliminate practically all vibration. Can. Patent for sale. Francis W. Johnstone, 117 N. 14th St., Ft. Smith, Ark., U.S.A.

MEANS FOR ATTACHING NAMES TO UMBRELLAS. — Artistic and substantial; can be put on without tools and is so constructed that mail orders can be quickly assembled and mailed. This article should prove a good seller where umbrellas or parasols are sold. Can. Patent for sale. F. G. Farnham, Honesdale, Pa., U.S.A.





VEHICLE-TONGUE SUPPORT, consisting of a rod hinged to the vehicle tongue, whereby it may be swung from an inoperative to an operative position. This operation has been found very effective in operation. Canadian Patent for sale. Samuel R. Hogsett, Huntersville, West Virginia, U.S.A.



SIGNALLING DEVICE FOR AUTOMOBILES, to indicate, preparatory to the setting of the brake for slowing up or stopping the car that such slowing or stopping is to transpire, whereby the driver of a vehicle behind may govern himself accordingly. Can. Patent for sale. C. Bowers, Success, Sask.

Manufacturers interested in patents should have their names on our Service Dept. mailing list.

"CANADA'S LEADING PATENT ATTORNEYS"

Ask for our Booklet on Patents, "Patent Protection"

HAROLD C. SHIPMAN & Co.

PATENTS

TRADE-MARKS. DESIGNS. COPYRIGHTS.

OTTAWA - CANADA

Branch Office Washington, D.C.

Associates All Foreign Countries

Condensed Advertising

FOR SALE

Davis & Furber mule, 360 spindles, 2¼-inch gauge, 24 spool drums, 15 ends per spool. Machine in good condition. For full particulars apply Slingsby Mfg. Co., Ltd., Brantford, Ont.

FOR SALE

One Rope Wheel, 10 grooves, 4 ft. 3 ins. diameter, 5 15/16 ins. bore. One Rope Wheel, 10 grooves, 8 ft. 6 ins. diameter, 5 15/16 ins. bore. 10 Manilla Ropes, 1¾ ins. diameter, 4-strand, each about 175 ft. long (spliced). In good condition.

100 ft. 3 7/16-inch shafting, and 6 hangers for same; also 500 ft. 1¾-inch Manilla Rope, 4-strand (new). For further particulars apply The Slingsby Manufacturing Co., Ltd., Brantford, Ont.

FOR SALE

At Niagara Falls, Ontario, The Power City, solid brick building, two stories and basement, 40-h.p. boiler, hand elevator, eight thousand feet floor space; lot 40 x 120, additional land available; price reasonable; adjacent to post office and railways; possession June 1st; good opportunity to secure factory building at before war price. For particulars address Mortimer & Bampfield, Niagara Falls, Ontario.

WANTED

Efficiency man wanted for manufacturing plant. Man required should have analytical mind and his duties will be to check work throughout the plant, including trucking, elevator service, etc., with a view to reducing costs. Prefer man who has had some previous experience. Applicants must state experience and salary requested. Box 3,200, INDUSTRIAL CANADA.

WANTED

Manufacturer's agent wants reliable line to sell on commission in Western Canada. T. F. Beresford, 327 North Brock St., Sarnia, Ont.

BELGIAN REPRESENTATIVE

A Belgian gentleman, with many years' business experience and large connections, is desirous to obtain representatives from first-class Canadian manufacturers in all articles of alimentation, such as canned fruits, vegetables, fishes, jams, condensed milk, cheese. Good references. Box 3,000, INDUSTRIAL CANADA.

FOR SALE

One Hydro Extractor, Craig make; basket 17 inches depth, 44 inches diameter. Good condition. For further particulars apply Slingsby Mfg. Co., Ltd., Brantford, Ont.

FOREIGN TRADE OF CANADA

(Comparison, 1917, 1918 and 1919.)

IMPORTATIONS.

	Month of March			Twevle Months Ending March.		
	1917.	1918.	1919.	1917.	1918.	1919.
Dutiable Goods	$54,571,450	$50,637,294	$49,102,408	$461,708,206	$542,319,623	$526,495,717
Free Goods	47,764,436	36,618,404	22,647,161	383,622,697	420.202,224	389,947,715
Grand Total	$102,335,886	$87,255,698	$71,749,569	$845,330,903	$962,521,847	$916,443,432
Duty Collected	$17,072,384	$15,799,244	$14,781,753	$147,623,230	$161,588,465	$158,044,456

EXPORTATIONS.

Month of March.

	1917		1918		1919	
	Domestic.	Foreign.	Domestic.	Foreign.	Domestic	Foreign.
The Mine	$9,980,711	$11,850	$6,772,173	$877,653	$5,895,161	$230,710
The Fisheries	2,373,258	94,653	3,365,222	92,082	5,992,531	32,736
The Forest	3,614,385	1,217	3,922,820	1,276	5,630,022	1,945
Animals and their Produce	14,809,941	1,584,969	9,552,749	218,422	17,984,474	2,820,058
Agricultural Products	21,962,252	1,011,089	37,895,628	471,741	21,821,663	333,929
Manufactures	69,239,486	1,145,602	37,999,663	2,078,298	32,486,167	3,131,390
Miscellaneous	435,280	260,318	346,732	124,517	1,342,343	304,347
Total Merchandise	$122,415,313	$4,109,698	99,854,987	3,863,989	91,152,361	6,855,115

EXPORTATIONS.

Twelve Months Ending March.

	Domestic.	Foreign.	Domestic.	Foreign.	Domestic.	Foreign.
	1917		1918		1919	
The Mine	$85,616,907	$219,514	$73,760,502	$1,928,373	$77,439,963	$3,192,703
The Fisheries	24,889,253	429,502	32,602,151	619,024	37,137,072	732,322
The Forest	55,907,209	488,091	51,899,704	60,645	70,024,644	44,298
Animals and their Produce	127,795,468	7,517,342	172,743,081	7,125,087	197,805,478	8,687,055
Agricultural Products	373,413,701	7,451,069	567,713,584	10,036,766	269,819,833	21,447,173
Manufactures	477,399,676	9,913,090	636,602,516	24,237,914	549,284,268	16,069,548
Miscellaneous	6,353,554	1,816,724	4,706,250	2,134,195	6,102,548	2,148,380
Total Merchandise	$1,151,375,768	$27,835,332	$1,540,027,788	$46,142,004	$1,207,613,826	$52,321,479



It Multiplies Executive Power

How to dodge detail—avoid chafing detail work, and at the same time keep your fingers on the pulse of business activity—this, probably, is one of your hardest present-day business problems. If your desk is piled with an agglomerate of papers—if you can't classify and arrange each report, each important paper as it comes to your desk so you'll be able to get it again quickly—then detail's going to blur your vision of the big constructive affairs. The "Office Specialty"

EFFICIENCY DESK

was built for busy men who handle big affairs—men who count constructive thought a mighty business asset—who want to keep their fingers on the pulse of business, and yet insist on freedom from small detail.

In it you hold right at your fingers' ends important papers, the vital records that keep you in touch with the whole organization, *classified* and available for *instant reference.*

Whether you are the General Manager, Sales Manager, Ad man or Buyer, this automatic "private secretary" is on the job with you and for you every business hour, ready to get, surely and quickly, that very paper you want at a moment's notice.

If you want to know how an "Efficiency Desk" can help you to multiply your executive power by taking care of your detail, drop a postal in your mail basket to-night for complete information.

THE OFFICE SPECIALTY MFG. CO., LIMITED
Home Office NEWMARKET Canada

Filing Equipment Stores at:

Toronto Montreal Ottawa Halifax Hamilton Winnipeg Regina Edmonton Calgary Vancouver

OFFICE SPECIALTY

LABOR SAVING OFFICE DEVICES "O and E" TIME IS MONEY

FILING SYSTEMS

946

OFFICE AND FINANCE

Is Your Office an Asset or a Liability?

How Your Accountant Can Help "Boost" Business

By ROBERT ARKELL

Of Thorne, Mulholland, Howson and McPherson, Industrial Advisors, Toronto

NOT so many years ago an occasional increase in the office payroll was considered a necessary evil. Those were the days when the book-keeper sat on a high stool and confined his efforts to posting cumbersome ledgers. Production records, costs and sales statistics were considered a luxury by all except the large manufacturers who alone knew of the great advantage scientific office management gave them over their less fortunate competitors (?).

A certain manufacturer, well known to the writer, started in business seven years ago with a cash capital that would have been considered woefully insufficient by the majority of business men, but his knowledge of the best office practice for the analysis and comparison of all his activities, from purchasing to collecting—through factory and sales department—has enabled him to climb to second place in a field of over a score of the keenest competitors.

On the other hand, the writer has found many offices almost "floating" in statistics and yet they were unable to make an intelligent report on any phase of their industry. It is obvious, then, that a mere tabulation of figures does not lead to success. Statistics are tools with which the manufacturer may open the way to bigger and better business but, unless the accountant knows what statistics are useful, a waste of time and money is bound to result. You would not think of trying to build a skyscraper with a watchmaker's set of tools, so why go to the trouble of preparing several pages of meaningless figures which do not assist you to stop your leaks? Such is the difference between red tape and common sense—success and failure.

Who is the Best Salesman?

Ask the average manufacturer who his best salesman is and he will name, without hesitation, the traveller who is sending in the largest volume of business. Put the same question to a manufacturer who *knows*—one whose profits are increasing steadily year by year—and he will probably name a salesman whose total orders would place him second or third in the other manufacturer's estimation. Why this difference in opinion, you ask? Because it takes more than a sheaf of orders to make a real salesman. In the first place it depends a great deal upon the cost of obtaining those orders whether one salesman's business is more desirable than another. Few manufacturers' pay all their salesmen the same salary and few salesmen spend the same amount for travelling expenses each week.

It is equally important, also, to know what returns or trades are involved in a salesman's business. Take pianos, for instance. If two salesmen sell the same number of the same priced piano but one takes back twice as many second-hand instruments in exchange as the other, it is not very difficult to determine which business is the more desirable. Every time a used instrument is accepted as part payment on a new one two sales have to be made to make one profit. Again: Supposing that two salesmen each have the same volume of sales and accept in exchange the same number of second-hand pianos, but one salesman has allowed more for his instruments than the other, it is equally apparent that the second salesman has secured a better class of business.

Or, let us take the clothing business. If Jones sends in $20,000.00 worth of orders and the customers return goods to the value of $500.00, he is certainly not as good a salesman as Smith who sold an equal amount and did not have any returns.

Then there is the question of new accounts. What manufacturer is selling to everybody who can handle his line? How many manufacturers know what percentage of the "possible" they are attaining? Is it not a distinct advantage to open several new desirable accounts each month? Then why not take this fact into consideration also when determining the efficiency of a salesman?

There are, then, four equally important facts to establish before any manufacturer can say who his "Star" salesman is:

1. What is the total volume of his orders?
2. What percentage did his business cost?
3. What value was accepted in trade? Or what was the value of goods returned by his customers?
4. How much accepted business did he secure from new customers?

There is also a fifth point to be taken into consideration by those manufacturers who produce a variety of articles

Trade Relations with Belgium

The Provincal agent of Quebec in Belgium, Mr. Langlois, is working at present to bring about closer trade relations between Belgium and the Province of Quebec. He believes in the possibility of enlarging these relations, and he suggests that the principal exportation houses in Quebec be asked to send him their catalogues. Mr. Langlois proposes arranging these catalogues in one of his offices in order to permit Belgian business men to come and consult them.

In case any one should wish to communicate with Mr. Langlois, his address is: Mr. Godfroy Langlois, Agent for the Province of Quebec, Immeuble du Credit General Hypothecaire, Boulevard Bischoffsheim, Brussels, Belgium. We are pleased to bring this to the attention of the members in Quebec Province.

BANK OF MONTREAL

Established over 100 Years

Capital Paid Up - - $16,000,000
Rest - - - - $16,000,000
Undivided Profits, $1,901,613
Total Assets - $558,413,546

BOARD OF DIRECTORS:

Sir Vincent Meredith, Bart., President
Sir Charles Gordon, G.B.E., Vice-President
R. B. Angus, Esq. — Lt.-Col. Molson, M.C.
Lord Shaughnessy K.C.V.O. — Harold Kennedy, Esq.
C. R. Hosmer, Esq. — H. W. Beauclerk, Esq.
H. R. Drummond, Esq. — G. B. Fraser, Esq.
D. Forbes Angus, Esq. — Colonel Henry Cockshutt
Wm. McMaster, Esq. — J. H. Ashdown, Esq.

Head Office: MONTREAL

General Manager--Sir Frederick Williams-Taylor.

Branches and Agencies { Throughout Canada and Newfoundland, At London, England, and at Mexico City In the United States - New York, Chicago, Spokane. San Francisco - British American Bank (owned and controlled by Bank of Montreal).

A GENERAL BANKING BUSINESS TRANSACTED

ESTABLISHED 1875

IMPERIAL BANK
OF CANADA

CAPITAL PAID UP $7,000,000 RESERVE FUND $7,000,000

PELEG HOWLAND, President

EXPORTERS

THIS bank offers particularly good facilities in the handling of the banking requirements of exporters. Its strong foreign connections guarantee the most efficient service.

AGENTS IN GREAT BRITAIN

ENGLAND—Lloyd's Bank Limited, London, and Branches
SCOTLAND—The Commercial Bank of Scotland, Edinburgh, and Branches
IRELAND—The Bank of Ireland, Dublin, and Branches

AGENTS IN FRANCE

Lloyd's Bank (France) and National Provincial Bank (France) Limited

AGENTS IN UNITED STATES

NEW YORK—The Bank of The Manhattan Company
CHICAGO—First National Bank BUFFALO—Bank of Buffalo
DETROIT—Old Detroit National Bank
SAN FRANCISCO—Wells Fargo Nevada National Bank
and in all other principal centres

HEAD OFFICE . . TORONTO

bearing different rates of profit. If a salesman persists in specializing on those lines which yield the smallest returns his business is certainly not worth as much as that of the salesman who concentrates on the more profitable lines. It is well worth while, therefore, in an industry of this kind to analyze each salesman's business in order to determine the real value of his orders.

In short: Get the facts—use them—and the profits will follow.

Canadian General Electric

Substantial Gain in Profits for the Year 1918 Recorded in Annual Report

Net profits of the Canadian General Electric Co. for 1918 amounted to $1,436,483, an increase of $302,886. After paying dividends of eight per cent. on the common and seven per cent. on the preferred stock, there remains a surplus of $656,483, which, added to the balance brought forward from the previous year, makes a total of $1,122,776. The sum of $600,000 has been transferred from this to the reserve, which now stands at $4,600,000, and, adding the balance of $522,776 for last year, the total surplus amounts to $5,122,776, or over fifty per cent. of the par value of the company's shares, both common and preferred. There is now a reserve for depreciation of $4,336,182, and there are no outstanding bonds, debentures, mortgages, or prior liens, with the one exception of an existing mortgage on property purchased of $22,500 not yet due.

A significant feature in the balance sheet is the vary large surplus of current assets over all liabilities outside of capital stock. The total current assets stand at $9,393,278, as compared with $8,557,946 in 1917. The total assets now stand at $21,692,471, or a gain of about $1,500,000 during the year. The president pointed out, in his report to the shareholders, that during the last four years the Company manufactured and shipped orders for munitions valued at $15,287,284. Early last year, anticipating the termination of the war, operations were directed along the line of marine engineering, and at the end orders were on hand amounting to $5,490,707, of which approximately $4,000,000 was carried forward into 1919.

Abitibi Power & Paper Co.

Big Increase in Earnings Made by this Big Pulp and Paper Corporation

A gain of nearly twenty-five per cent. in net earnings was shown by the annual report of the Abitibi Power and Paper Company, Limited, for the year ended December 31, 1918. The net earnings amounted to $1,643,653, or an increase of $320,652 over 1917. The surplus available for dividends, which was $170,000 in excess of 1917, amounted to $511,202. With surplus carried forward, the amount standing to the credit of the company on the 31st December last amounted to $1,073,249. In his annual report to the shareholders, the president, Mr. F. H. Anson, said, in part: "Since the date of the balance-sheet submitted herewith, $498,000 of the company's bank indebtedness has been liquidated through the sale of additional first mortgage bonds, so that at this date the company's net working capital is in excess of $1,200,000. Payment of $1,500,000 of convertible six per cent. notes, due August 1, 1919, has been provided for by the sale of an equal amount of first mortgage bonds. As a result of these transactions, the company goes into the year 1919 in excellent financial condition, and hopes that within a reasonable time it will be able to pay off the dividends in arrears on its preferred stock amounting to 19¼ per cent."

Monarch Knitting Co.

A Seventy-five per cent. Increase in Profits Made by this Ontario Company

The annual statement of the Monarch Knitting Company of Dunville, Ontario, show an increase in profits of no less than seventy-five per cent. over the preceding year. Net profits, after providing for depreciation and war taxes, were $351,654 as compared with $202,413 in 1917 and $145,534 in 1916. The company's financial position proves to be so strong that a few weeks ago a dividend of four per cent. on the common stock was declared. In this connection, the report says, "The directors look forward with confidence to the business of the coming year, but they do not yet feel justified in placing the common stock on a regular dividend basis until conditions become more normal and until there is some assurance of continued stability in tariff legislation. The company is selling in the United States markets, having established a factory at Buffalo which, during the past year, made profits of $43,416, after provision for income, excess and war profits taxes. This profit has been retained in the Buffalo business as working capital. The president of the Monarch Knitting Company is Mr. F. R. Labor.

Canada Cement

Despite Smaller Earnings in 1918 the Company has Placed Itself in a Strong Position

The annual report of the Canada Cement Co. showed net profits for 1918 of $2,215,708, as against $2,861,246 in 1917 and $2,218,848 in 1916. After fixed charges and the regular dividend on the preferred stock the balance available for dividend on the common stock amounted to $1,060,644, equal to 7.9 per cent., as compared with 12.6 per cent. the previous year, and 7.7 per cent. in 1916. In the balance sheet the contingent reserve of $850,000 carries an explanatory note which says that part of it is available for government taxes. After all deductions, including $150,000 carried to reserves, the balance carried forward amounted to $100,644 against $484,181 the previous year, and $432,585 in 1916. Despite the smaller earnings, the company's balance sheet reflects the strong position it has placed itself in since it began munition work in 1916.

Canadian Fairbanks-Morse

Earnings for 1918 Showed a Substantial Increase over those for the Previous Year

The annual report for the year 1918 of the Canadian Fairbanks-Morse Company, Limited, shows not only a record from the standpoint of volume of trade, but also that of profit. After depreciation, war taxes and dividends had been deducted, the balance remaining for distribution to the common shareholders was, during the past year, $710,097, as against $691,973 in 1917, $546,629 in 1916, and $619,048 in 1915. The earnings shown for the past year represented 44.38 per cent. on the $1,600,000 common stock, against 43.2 per cent. in 1917, and 34.2 in 1916. After all dividend requirements were liquidated there remained a balance of $422,097 to add to the amount brought forward from the previous year, bringing the total surplus up to $1,762,537. This represents the equivalent of nearly 57 per cent. on the combined issues of $1,500,000 preference shares and $1,600,000 common.

The balance sheet shows several interesting changes from a year ago. The company ended the past year with no bank loans, and with cash on hand amounting to $519,861, while current assets exceeded liabilities by $4,300,000.

THE ROYAL BANK OF CANADA

Capital Paid Up	$14,000,000
Reserve and Undivided Profits	15,500,000
Total Assets	427,000,000

HEAD OFFICE - MONTREAL

BOARD OF DIRECTORS:

Sir Herbert S. HOLT, Pres. E. L. PEASE, Vice-Pres
E. F. B. JOHNSTON, K.C., 2nd Vice-Pres.

Jas. Redmond	C. S. Wilcox
G. R. Crowe	A. E. Dyment
D. K. Elliott	C. E. Neill
Hon. W. H. Thorne	Sir Mortimer B. Davis
Hugh Paton	G. H. Duggan
Wm. Robertson	John T. Ross
A. J. Brown, K.C.	R. MacD. Paterson
W. J. Sheppard	W. H. McWilliams

OFFICERS

E. L. Pease, Man. Director, C. E. Neill, Gen. Manager. F. J. Sherman, Asst. Gen.-Manager; M. W. Wilson, Supt. of Branches.

Branches in every Province of the Dominion of Canada and in **Newfoundland**; in **Havana** and throughout **Cuba**, Porto Rico, Dominican Republic, Costa Rica, and Venezuela; **Antigua**, St. John's; **Bahamas**, Nassau; **Barbados**, Bridgetown, **Dominica**, Roseau; **Grenada**, St. George's; **Jamaica**, Kingston; **Montserrat**, Plymouth; **Nevis**, Charlestown; **St. Kitt's**, Basseterre; **Trinidad**, Port of Spain and San Fernando; **British Guiana**, Georgetown, New Amsterdam and Rose Hall (Corentyne); **British Honduras**, Belize.

SPAIN, Barcelona—Plaza de Cataluna 6.
LONDON, England, OFFICE—Princes St., E.C.
NEW YORK AGENCY—Cor. William and Cedar Sts.
(Savings Department at all Branches.)

Banking Service

The attention of manufacturers is drawn to the excellent facilities this Bank offers in all branches of a complete banking service.

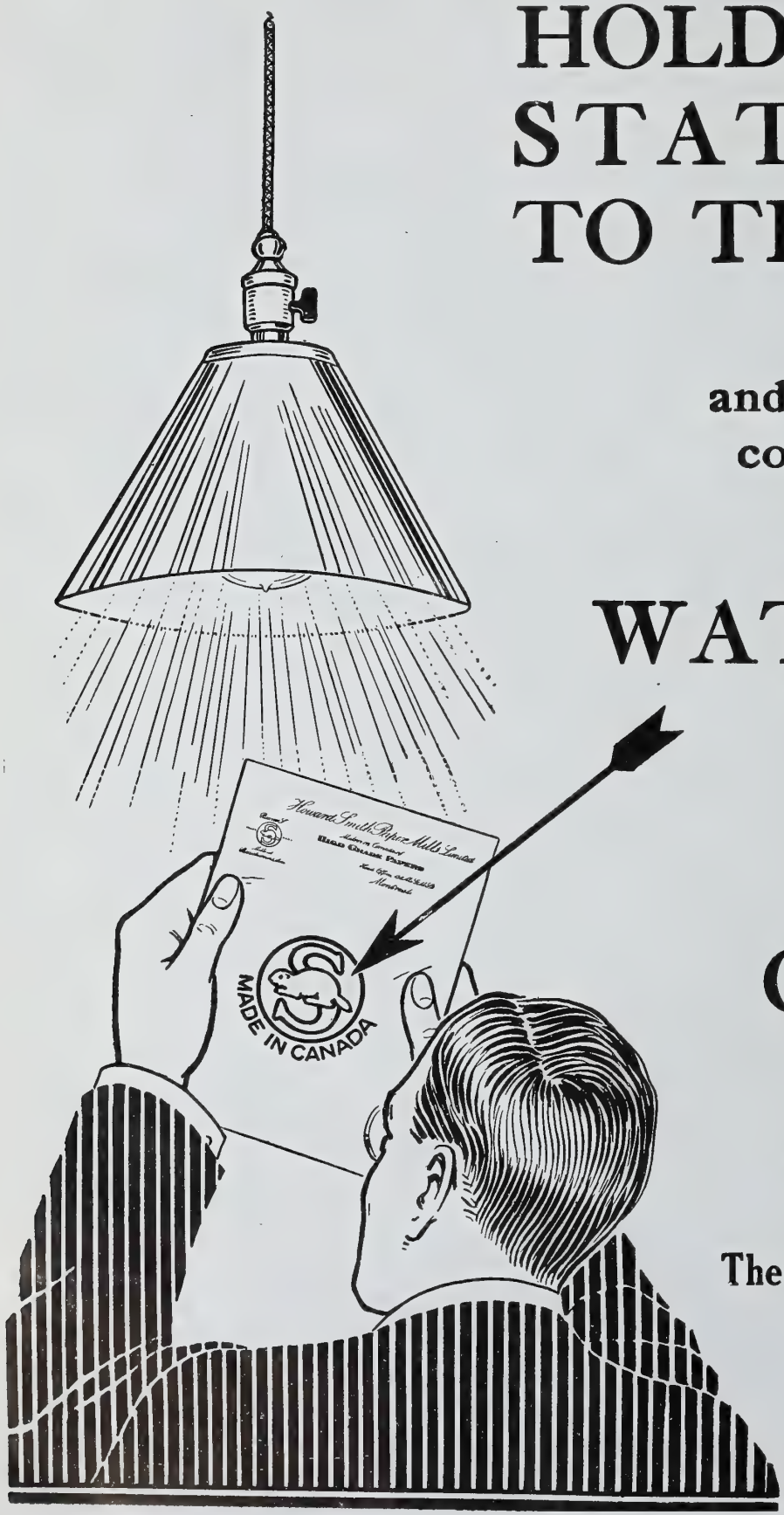
A good banking connection is an essential to the success of the manufacturer or merchant.

THE CANADIAN BANK OF COMMERCE

HEAD OFFICE - TORONTO

Capital, $15,000,000. Reserve Fund, $15,000,000
Total Assets over $440,000,000

HOLD UP YOUR STATIONERY TO THE LIGHT



and see that it contains this

WATERMARK

It is your guarantee for

QUALITY

-Made-in-Canada—

BY

The Howard Smith Paper Mills
LIMITED

138 McGill St., MONTREAL

MILLS AT

BEAUHARNOIS, QUE. and
CRABTREE MILLS, QUE.

The World's Gold Banking Reserve

War has Taught Economists that Credit Business of Nations Can be Safely Conducted Without the Use of Such Large Amounts of Gold

By R. H. TINGLEY
(From "American Industries")

While gold mining, the world over, has been on the decline for the past few years, the holdings of the Government banks in all the principal European countries, except France and Italy, have increased substantially since the war started. The position of the Bank of Russia is not included in this statement and no information is at hand regarding Austria. The Russian Bank holdings have apparently decreased $376,000,000, but, as nobody can tell how much of this has been taken by the Bolsheviki and which may, in time, be reclaimed, little consolation can be gathered from reports from that unfortunate country.

According to recently published figures the Government bank holdings of gold in the belligerent countries (including Japan), and in the neutral European nations have increased from $2,911,500,000 in 1914 to $4,045,000,000 in December, 1918, or $1,133,500,000. In addition, the gold holdings of the United States have increased during this period from $1,900,000,000 to $3,080,000,000, or $1,180,000,000.

Without taking into account other lesser countries, then, it is apparent that the gold bank reserves of the world have increased during the war, something like $2,313,500,000.

It is apparent, too, that most of this increase in the hands of the banks of important neutral countries has come about by shipments of gold from the belligerent countries in return for goods. The same may be said of Japan, though one of the belligerents from the start; and of the United States, for our surplus supply came to us before we entered the war.

The increase in gold holdings of the Bank of England and the Bank of Germany, amounting in the former to $175,000,000 and in the latter to $282,000,000, has been obtained by the calling in of gold coin from circulation. France and Italy, too, have called in their circulating gold, but even with the increased amounts thus obtained in the central banks, neither country has been able to maintain a bank reserve in gold equal to pre-war times.

The above condition with respect to the world's holdings of gold rather tends to dispel the illusion that there is really any scarcity of this metal. What has happened is that these countries have stopped using gold as a hand-to-hand medium and are using paper money instead.

It may be that, as a result of the enforced withdrawal of gold, the circulation practice may never be resumed, at least, not to the same extent as heretofore. The gold problem may, in the future, be entirely separated from a widespread use as currency, and the maintenance of an effective gold standard, therefore, become more than ever a banking proposition. All of this is an economic move in the right direction. In stable governments there is no necessity of injecting so much gold into the circulation. Government paper, and that of the national banks based on gold, is a much more ideal and convenient circulating medium than the metal itself, and the metal itself is of much more value to a country, economically speaking, in the vaults of the big banks of issue than in the pockets of the people.

War has taught economists that the credit business of nations can be safely conducted without the use of such large amounts of gold. The credit business of the world has increased tremendously as a result of war. It has increased far out of proportion to the amount of gold that was heretofore considered necessary upon which to base it. It has become apparent, however, that, with the centralization of the money base heretofore out in circulation there exists enough to validate even the enormous credit transactions of war.

The Merchants Bank of Canada

Head Office, MONTREAL **Established 1864**

Paid-up Capital	$ 7,000,000
Reserve Funds	7,437,973
Total Deposits (November, 1918)	141,000,000
Total Assets (November, 1918)	173,000,000

President: Sir H. Montagu Allan, C.V.O.
Vice-President: K. W. Blackwell
General Manager: D. C. Macarow
Supt. of Branches and Chief Inspector: T. E. Merrett

THE WORLD OF FINANCE

offers no more thorough and up-to-date system than that which regulates the workings of The Merchants Bank.

It is this careful training and efficient management which enables this Bank to give to its customers a most modern and satisfactory banking service.

307 Branches in Canada Extending from the Atlantic to the Pacific.

NEW YORK AGENCY, 63-65 WALL ST.

UNION BANK OF CANADA

Established 1865 **Head Office, WINNIPEG**

Paid-up Capital	$5,000,000
Reserve Fund	$3,600,000
Total Assets as at Nov. 30th, 1918, over	$153,000,000

TO MANUFACTURERS AND EXPORTERS

who are reaching out for greater trade, over broader territory, the Union Bank of Canada offers a comprehensive banking service, complete and efficient. This service not only covers Canada, where we have 341 Branches, but through the Foreign Exchange Department of our London (England), New York and Montreal Offices, and the Commercial Information Bureaus established at these branches, it offers valuable assistance to Canadian Manufacturers who are selling Overseas.

LONDON (ENGLAND) BRANCHES
6 Princes St., E.C. Haymarket, S.W.
New York Agency, 49 Wall St., New York City
W. J. Dawson, F. T. Short } Agents

Back of our name stands a group of specialists, each an authority on some particular phase of your business---from your Receiving Door to your Shipping Platform---through Factory, Office and Sales Division.

Thorne, Mulholland, Howson & McPherson

INDUSTRIAL ADVISORS

Bank of Hamilton Building Toronto, Ont.

RIORDON SALES COMPANY, LIMITED

MONTREAL

Offer for Sale

Sulphite Fibre Wood Pulp

BLEACHED AND UNBLEACHED

FOR PAPER MILLS

IMPERVIOUS SPRUCE SHEATHING

Lumber

SPRUCE, HEMLOCK AND PINE, CEDAR RAILWAY TIES AND SHINGLES, SPRUCE CLAPBOARDS.

SALES MANAGERS

T. J. STEVENSON GEO. E. CHALLES

THE BROWN BROTHERS LIMITED

Simcoe and Pearl Sts. TORONTO



MANUFACTURERS OF

ACCOUNT BOOKS, LOOSE LEAF LEDGERS

Binders and Specialties

LEATHER GOODS—DIARIES—STATIONERY

Printers' and Bookbinders' Supplies

Established 1849 BRADSTREET'S

Capital and Surplus - - $1,500,000

Offices Throughout the Civilized World

Executive Offices: Nos. 346 and 348 BROADWAY, N.Y. CITY, U.S.A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying, and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world. Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary, and business corporations. Specific terms may be obtained by addressing the Company at any of its offices. Correspondence invited.

OFFICES IN CANADA

Edmonton, Alta. Hamilton, Ont. London, Ont.
Halifax, N.S. Ottawa, Ont. Quebec, Que.
Montreal, Que. Toronto, Ont. Vancouver, B.C.
St. John, N.B. Winnipeg, Man. Calgary, Alta. Victoria, B.C. Sydney, N.S.

THOS. C. IRVING, Gen. Man. Western Canada, Toronto

EXPORTERS OF

Reed Organs, Piano Stools, Music Cabinets.

Catalogue B.

The Goderich Organ Co. Limited

GODERICH, CANADA

Closet Seats, Flush Tanks, Medicine Cabinets,

Everything for the Bathroom.

Write for Catalogue C and Price List.

Why Great Britain is Restricting Imports

A Sudden Stoppage of Government Expenditure would Create Chaos because no Wages would be Paid to a Large Portion of the Wage-Earning Classes—Disposal of Stocks of Raw Materials held by the Government is Important—Manufactured Articles Subject to Restriction when not Necessary fsr Consumption

Statement by Sir AUCKLAND GEDDES

AS explaining the policy followed by Great Britain in restricting imports during the transitional period between the signing of the armistice and the complete return to a peace basis, the following report of a debate in the British House of Commons, participated in by Sir Auckland Geddes, Minister of National Service and Reconstruction, Mr. W. C. Bridgeman, Parliamentary Secretary of the Board of Trade, and others, may prove illuminating. Sir Auckland Geddes said:—

I am sure all members of the House regret that the President of the Board of Trade is not able to be in his place to-day to take part in this most important debate, and no one regrets it more than I do, because I have been asked to explain what the policy of the Government is with regard to the trade position. But I cannot, I am afraid, claim to have that intimate detailed knowledge which it is advisable for anyone to have who rises to explain policy. In the first place, I may perhaps indicate some of the difficulties of the position. I would ask the House to remember that we are still at war; we hope it will not be for long, but we still have to maintain a blockade of our enemies, and we still have the difficulty of maintaining that blockade which erects barriers in the area of neutral countries. The Government sincerely hope that before many weeks are past it will be possible to throw down these special barriers. But it is not only that which makes the dealing with the present situation difficult. There is another difficulty, and that is that we have been spending vast sums of money every day. In those vast sums is a wage element, and if we suddenly were to stop the Government expenditure there would be absolute chaos in the country, because no wages would be paid to a large proportion of the wage-earning classes. Therefore the Government has a difficult and delicate operation to carry out. While it slows down expenditure on capital account it must gauge the rise of wage payments on the civil industries account. It is the difficulty of keeping wage payments to the wage-earners as a whole approximately constant that is causing such great difficulty at the present time, combined with the fact that we are still at war. It is well we should have all this in our minds, and that we should realize the fact that these great difficulties exist.

Post-War Prices

The first point my right hon. friend the member for Peebles (Sir D. Maclean) made was this, that there was a policy, which he said was supported by the president of the Board of Trade, to keep up prices. I am in a position to state precisely what is the policy with regard to prices of those raw materials which the Government possess and control. The general policy is this, to endeavor to get down the price—the market price of the raw material to a level not higher than the anticipated post-war prices of that material. That is the policy which the Government is following with regard to the disposal of the stocks of materials which it holds, and as a safeguard where it holds large stocks of materials it is proposed to retain sufficient reserves of that raw material to enable the Government to defeat any attempt at a hold-up by merchants. There is a further instruction that where agreements permit the Department are to do everything they can in disposing of their surplus stock, to help British industry. There are certain of the goods which we hold on Government account as to which there are elaborate agreements which the Government cannot infringe, and in these cases the raw material is to be dealt with in accordance with the terms of the agreements entered into. That is the policy with regard to the prices or articles which the Government control—to bring them down to a level which may be regarded as a fair post-war normal level. If the prices were brought down lower it would, naturally, check production, and although it might give ease for the moment, it would have serious effects later on. Such considerations apply specially to some of the non-ferrous metals, and it is in connection with the great stocks of these metals which the Government hold that this policy is being vigorously pushed now. I repeat the general line on which we are working is to get the prices of raw materials down to the lowest possible level."

MR. FRANCE: May I ask what standard or advice is taken in fixing or anticipating normal post-war prices?

Fixing Post-War Prices

SIR A. GEDDES: Obviously, as the post-war price is a matter which lies in the future, there can be no absolute certainty that the price gauged is going to prove correct. There are, however, any number of facts which are known about the increase of wages, about the increase, for instance, in the cost of coal, of power, of shipping, and of transportation, and it is on these data that the prices are worked out, and in every case we are, with the experts who are engaged on this problem trying to assess as nearly and as fairly as possible the normal post-war price. I do not see what else can be done. It is quite clear that if the prices were dropped now a long way below the future price, production would most certainly be checked. Our stocks which are held, are not sufficient to cover a long period of years, and it will be a great danger to this country if any action now taken by the Government should lead to a check of production. I am sure that point will appeal to the House. There may be a difference of opinion whether the normal post-war prices are accurately estimated—there always are differences amongst experts, but the best opinion that can be arrived at is taken, and surely one could not do more than that. I have told the House what our policy is with regard to prices and with regard to the disposal of stocks which we hold. With respect to the other two great points raised by my right hon. friend—the policy with regard to imports and that with regard to exports—I hope to be able to give a clear statement of what the Government policy is.

Let me take imports first. I may refer to an answer given by my hon. friend the Secretary for the Board of Trade on

Friday, to the effect that "no import restrictions shall be or shall continue to be imposed on goods coming from any part of the Empire without the special consent of the Cabinet, which will not be given unless some unforeseen necessity arises." That is a clear statement of policy. It is that goods which have their origin or their manufacture or are produced within the Empire will come in without restriction. On the next point this is a definite statement of the policy of the Government—that raw materials required for our industries shall now be admitted free of restriction.

SIR D. MACLEAN: What does the right hon. gentleman mean by "raw materials?" Does he regard bottles as raw materials?

SIR A. GEDDES: That point is dealt with in the next paragraph.

MR. J. H. THOMAS: Is leather a raw material?

SIR A. GEDDES: I should say leather is part manufactured. Semi-manufactured articles which are necessary as material for the manufactures of this country are to be admitted free from restrictions, except so far as they are produced by industries which it is essential to foster in this country and which require shielding, in which case they will be restricted. What I wish to do at the moment is to give to the House a clear view of the policy which is being adopted, and once we have got that clear view we will see how various particular instances will be affected. I am sure that will be the most satisfactory manner of dealing with the question. I have given the import policy, first as to raw materials, and secondly as to semi-manufactured materials, and the position of articles which at the beginning of the war we found ourselves unable to produce in this country—industries which had to be created; remembering that we are still at war, and that our industries are still disturbed by war. The next point is that manufactured articles shall be subject to restriction when not necessary for consumption in this country. That means that when they are not essential for consumption, or when they are produced by industries which require to be shielded from foreign competition—industries which are disorganized for the purposes of the war, or which are disorganized while passing from war work to peace work, or which have been created or encouraged owing to circumstances arising out of the war—the restrictions in such cases will continue for a period not extending beyond 1st September next without a further review of the whole situation.

SIR D. MACLEAN: Does not that amount to this, that up to 1st September is the time limit, and, after that, as I understand it, the restriction of imports is going to be done away with? (Hon. member: "Reviewed.") Reviewed and not removed?

The Transitional Stage

SIR A. GEDDES: The policy of the time limit is quite clear. These are war restrictions; this policy is to deal with the transitional stage. We may find in the summer that the transitional stage is going to be prolonged. We may find it may be shortened, but it is not to be extended beyond the 1st September without further review. This it not the peace policy, this is the transitional policy, and what I am saying now is without prejudice to any policy which may or may not be arranged with regard to the permanent policy. This is a transitional policy, and the period taken for the transitional policy will, we hope, come to an end on the 1st September. The next thing, so that the House and the country may know exactly what is going on, is the form of instruction which has been given to the Board of Trade. The Board of Trade is to take steps to consider what shall be done to maintain in this country industries which it is the policy of the Government to foster—those are the industries such as I have stated—to consider definitely in detail the steps which are to be taken and to report to the Government. That policy need not be limited to any existing restriction.

A General Summary

That, I think, covers in a general statement, not in detail, the policy on which the Government is working; raw materials free at once, part manufactured materials, which are the raw materials of other industries, free if possible, unless by so bringing in those materials we are going to kill our industries which it has been shown by the war it is definitely in the interests of this country to have in the country. Otherwise, of course, the imports, though not prohibited, will be licensed and the total imports brought in will be watched. With regard to exports, there are three general heads under which I wish to deal with the subject. The raw materials will be free. The partly manufactured goods will be free as far as possible. From the point of view of the interests to which I referred, completely manufactured goods not free, and, as far as possible, not to be brought in unless they are essential for use in this country. The license of imported goods will continue. All sorts of considerations must necessarily arise with regard to the position of the exchanges as the flow of raw material increases. Take an example from the United States. We have there the whole question of exchange to consider. Probably there will be a heavy drain on the exchange as the flow of raw material increases. It is not contemplated, it is no part of the policy of the Government to shut down the existing importation of manufactured goods if, without detriment to the interests in the country, that importation can continue. Naturally one of the reasons for limiting imports is not to increase our debts.

Restrictions Are Lifted

Iron and Steel Manufacturers in Great Britain Free to Make their Own Terms

The following cablegram, dated 24th April, has been received by the British Government Trade Commissioners in Canada, Mr. G. T. Milne and Mr. F. W. Field, from the Department of Overseas Trade (Development and Intelligence):—"All subsidies and control over prices and material with regard to orders for pig iron, manufactured iron and steel and tin plates, will be withdrawn April 30th, subject to provisions of existing contracts and any export regulations. This means that manufacturers and merchants in the United Kingdom are free to make their own terms with regard to price and delivery from May 1st."

To Stimulate Inter-Empire Trade

Proposal Made to Establish an Empire Court of Buildings at the Canadian National Exhibition

The establishment of an Empire court of buildings by the Canadian National Exhibition is advocated by Mr. J. P. Murray, of Toronto. He proposes that the first building should be called the Canadian Building, and should be erected by the Federal Government. It would be planned to give full accommodation to each of the provinces, which would collect, label and tabulate the basic raw materials produced within their own areas. Afterwards, buildings would be erected to house raw materials from the other countries of the British Empire. Mr. Murray believes that this plan will do much to stimulate trade within the Empire.

DEPENDABLE SERVICE

JOINT GLUE

VENEER GLUE

ALWAYS UNIFORM
Samples and Prices on Request

DELANY & PETTIT, LIMITED
TORONTO

HIGH GRADE COATED PAPER

For the Best Results in Fine Screen Half-Tone and Color Work, use

"Red Seal" Coated Book

"Luxacoted Porcelain" Coated Book

TRADE COATED R PAPER MARK
REGISTERED

Made by

RITCHIE & RAMSAY LIMITED, TORONTO
CANADA

Western Selling Agents :
JOHN MARTIN PAPER CO., LTD., Winnipeg and Calgary

AMONG THE INDUSTRIES

Under this heading are published items of news of current interest concerning the activities of Canadian manufacturers. Information about changes of interest, enlargement of plants, and plans for future developments are welcome, and are published free of charge, provided they should not be properly classified as advertisements

***Items prefixed with an asterisk are based on official information received in each case from the companies mentioned. Other items, while secured usually from reliable sources, have not the same authoritative origin**

ALBERTA

Calgary.—The Coca-Cola Company will expend $70,000 on its new plant on Fourth Ave. W. Operations will commence soon.

The Alberta Flour Mills have taken out a building permit for erection of mill costing about $550,000.

BRITISH COLUMBIA

Prince Rupert.—The Prince Rupert Dry Dock and Engineering Co. has taken over under lease from the Grand Trunk Pacific Railway the shipbuilding plant and dry dock located here, and is at present entering upon the construction of two 8,100-ton freighters of the Dominion Standard.

Vancouver.—Pacific Electric Welding and Mfg. Co., 1018 First Ave., Seattle, Wash., plans erection of factory, to cost, including machinery and equipment, between $65,000 and $75,000.

A million-dollar factory is to be built in Vancouver, B.C., by the Coca-Cola Company, at the corner of Richards and Smyth streets. One story is to be erected at present and provision made for the addition of two stories later.

The Vancouver Portland Cement Co., Ltd., it is understood, is amalgamating with the Associated Cement Company (Canada) Limited, which is backed by English interests, and the consolidated concerns will carry on business under the name of "British Columbia Cement Company, Limited."

Plans are in progress for ice plant and cold storage, costing $5,000, for Vancouver Ice & Cold Storage Co., Gore St.

Replacing the old mill burned to the ground about a year ago, the Eburne Sawmills Company has now nearly completed one of the most modern plants on the Pacific Coast in the vicinity of Vancouver. The new mill is 500 feet long, and is capable of turning out 100,000 feet of lumber daily. A 750-h.p. engine will furnish power to the plant.

A building permit has been taken out by the Liquide Air Society, 1 Ernest St., Maisonneauve with headquarters at Montreal, for erection of a branch factory, the first unit of which will cost $25,000.

The Tudhope Electric Metal Co., Ltd., is erecting a plant on the C.P.R. reserve on False Creek and will install a large electric furnace.

Vernon.—Dominion Canners, Limited, are re-building office building recently destroyed by fire.

Victoria.—The Harbour and Marine Company, Ltd., which is laying down a plant at Victoria for the construction of two 8,100-ton steel steamers for the Dominion Government, will operate as a separate unit, their site being at Hospital Point, where a wharf has already been constructed for the landing of materials and supplies. A temporary yard office structure has also been completed.

MANITOBA.

Brandon.—The Coca-Cola Co. have started work on a $21,000 factory building.

St. Boniface.—The Clarx Milling Co., capitalized at $1,000,000, will establish a flour mill in this city. It is estimated that $25,000 will be expended on the plant of Stanley Springs Brewing Co., in order to convert it into suitable quarters. Extensions are contemplated at a cost of $275,000.

Winnipeg.—Upon the death of E. H. Bissett, president of Bissett & Webb, Ltd., who controlled the stock in the Owl Metal Co., Ltd., Winnipeg, the estate sold his interest to E. G. and L. R. Barrett, of the Vulcan Iron Works, Winnipeg. More capital has thereby been influenced, and the firm intends to operate on a much larger scale than heretofore, and are now erecting an addition to their present factory. They intend to recover metals from scrap and metal by-products, converting brass and bronze filings, turnings, borings, into ingots after refining. Their white metal department for the manufacture of solders for tinsmiths and plumbers, and machine type metals for newspapers and printers, is also being largely extended. The plant, which has been bought, is the very latest for the refining and casting of metals. As a result of this re-organization, the whole of the stock in the Owl Metal Co. will be held by well-known western men.

NEW BRUNSWICK.

Moncton.—J. A. Humphry & Son, Limited, are erecting two brick factory buildings.

Nordin.—The Miramichi Construction Co., Ltd., a newly organized concern, is taking over the assets of the International Shipbuilding Corporation, including their yards at Nordin, N.B., plant, machinery, stock of material and a 540-ton schooner which was being built when the corporation ran short of capital.

St. John.—The Palestine Film Co. of San Francisco has been negotiating for the establishment of a plant in St. John. It is proposed to incorporate a subsidiary company under the Dominion laws and manufacture and distribute moving picture films. The scenery around St. John appears to be suited to the needs of the company.

NOVA SCOTIA

Halifax.—Among the construction undertakings which the Halifax Shipyards are stated to have in view are a plate mill and a machine shop. The plate mill is to cost about $250,000 or $300,000, and will be of reinforced concrete. The machine shop, which will be the second to be built by the company, will cost about $70,000.

Sydney Mines.—Repairs are about completed to the furnaces of the Nova Scotia Steel & Coal Co. Operation of one rolling mill was resumed recently and the other mills are to recommence work within a few days. Plans for a complete reorganization of the company's plant are being worked out and a statement of development is expected within a few weeks.

Sydney.—The Dominion Steel Corporation is making progress in the extensions on the plant which have been planned for and which have been found necessary to meet the demand for their products and to meet the demand for labor employment. Work on the construction of the new power house has been started by the Foundation Company. The new power house will be built just north of the blast furnace boiler house, where there is plenty of room for enlargements. The second battery of coke ovens, which were under construction by the By-Products Co., are being made ready for the first bank. This marks the completion of two years' work by the By-Products people, the first bank of sixty ovens having been opened last year. Wabena, the Steel Company's source of ore supply in this country, is to have a new power house also. The mine at Wabena has always been electrically operated and the new power house means the extension of the work there. There will be a large power house, with two generators of 2,000 k.w.'s each and three sub-stations for the lower voltage. The construction on this has already started.

ONTARIO

Brantford.—Incorporation papers have been granted to Bayard Geekie Cobb, of the City of New York, engineer; W. J. Aikens, Dunnville, manufacturer; J. B. Detwiler, manufacturer; Thomas Hendry, insurance broker, and W. T. Henderson, King's Counsel, all of the City of Brantford, to acquire, erect, construct and operate furnaces for smelting and reduction of ores, metals and minerals, etc. The firm will operate under the name of "Electro Tin Products, Limited." Capital is $300,000.

Bancroft.—An expenditure of $500,000 is contemplated by the Canada Marble Co., 18 Toronto St., Toronto, for machinery and plant equipment in connection with development of marble quarries.

Cobourg.—Canning factory costing $150,000 will be erected here by Douglas Packing Co., Fairfort, N.Y.

Fort William.—Pipe foundry of Canadian Iron Corporation will be remodelled at a cost of $125,000.

Galt.—Contracts have been let for the construction of a factory for Riverside Silk Mills Co., Water Street N.

The Galt Art Metal Company, Ltd., plan the resumption of business on a pre-war scale and the employment of additional hands.

Sheldon's, Limited, have enlarged their plant by the addition of a new stock and pattern shop. The opening of this new building was celebrated by a dance which, it is stated, was one of the most successful in the history of Galt.

Guelph.—The Guelph Worsted & Spinning Co. propose to erect a one-story addition to their plant at a cost of about $20,000.

An extension is to be made to the plant of the Sterling Rubber Co., Limited, at a cost of approximately $10,000.

F. R. Ramsay, Montreal, and W. W. Grills, Toronto, are promoting a hat manufacturing concern, which will occupy that portion of the Morlock Block formerly occupied by Libby, McNeill & Libby. The company will be known as the Canadian Panama Hat Co., and according to agreement will employ not less than sixty hands.

Ratepayers on March 24 voted in favor of granting a loan of $50,000 and other concessions to the Premier Rubber Footwear Co. The new industry, of which Mr. F. E. Partridge, of the Partridge Rubber Co., is the head, will erect a four-story factory, costing $150,000.

Haileybury.—The United Iron and Machine Co., Ltd., will erect foundry and machine shop.

The Basis for Appraised Values for Fire Insurance

The adjustment of a fire loss will be made in accordance with the cost of replacement new, less depreciation at the time of the fire.

The appraised values for insurance purposes must therefore be in accordance with the present market conditions for labor, material and equipment. This is more particularly the case if the Co-insurance Clause is in force.

Canadian Appraisal Service will afford a correct determination of the insurable values of a property. If values in accordance with the market conditions of any other period are desired, for accounting or taxation or readjustment purposes, these also can be furnished.

CANADIAN APPRAISAL COMPANY LIMITED

TORONTO
Royal Bank Bldg.

MONTREAL
17 St. John Street

NEW YORK
Equitable Bldg.



McKINNON INDUSTRIES ST CATHARINES ONTARIO CANADA

Are you, ***Mr. Manufacturer,*** satisfied with the **Quality** and **Delivery** of your Malleable Iron Castings?

Another satisfied customer writes us:

"Your service and material has been satisfactory for 1918 and we are very well pleased with both. You have at all times been able to give us the very best of castings and your service has been admirable.

We are only too glad to tell you this and hope that your other customers are as well satisfied as we are."

MAY WE EXPECT AN ENQUIRY FROM YOU?

McKINNON INDUSTRIES, LIMITED

St. Catharines, Ontario, Canada

Hamilton.—An extension will be made to the plant of the Zimmerman-Reliance, Limited, at a cost of $35,000. This concern, embracing considerable local capital, has taken over the business of the Uniform Cap Co., King William Street, and for the present will use its premises. Besides continuing the uniform part of the cap business it will branch out into other lines.

The Empire Meter Co. will commence operations at 134 North Bay Street within a short time. It will manufacture gas meters. The company has taken a year's lease of the premises and will erect a new building during the year. The product is a meter invented by S. J. Pocock, of this city, and requires 34 fewer parts than any other meter on the market.

The Barton Electric Co., which is occupying half of the building vacated by the Canadian Carborundum Co., East Barton St., will manufacture electrical appliances.

Kitchener.—Ten acres of land on South Street have been secured by the Four Wheel Drive Auto Truck Co., Clintonville, Wisconsin, for the erection of a Canadian plant. Provisional directors have been appointed, consisting of S. J. Williams, W. G. Cleghorn, W. T. Barrie, Henry Nyberg and E. C. Kabel, and it is expected that the plant when completed will employ at least 250 hands.

London.—Burrell D. Jones, of the Republic Motor Truck Co., has announced that the company will erect a factory costing $500,000.

Mimico.—Alterations and addition to plant are planned by the Ontario Sewer Pipe Co.

Parry Sound.—Lyons & Co. are installing new machines to take care of their growing business. They are installing one or two more automatics for the manufacture of pill boxes, which this firm specialize in. This work was practically all done in the United States formerly, and this local firm are corralling the bulk of this business, going in exclusively for pill boxes and making a success of it at that. An enlargement of the premises is contemplated shortly.

Port Arthur.—Work will shortly be started on the Carrick pulp mill. It will be built in 50-ton units, other units to be added as business warrants until the maximum capacity of 350 tons is reached.

Port Hope.—T. B. Chalk and J. R. Kennedy have leased the milling property on Barrett Street, now owned by the G.T.R., and will enter into the business of manufacturing veneer. The new company will be known as the Port Hope Veneer & Lumber Co.

St. Catharines.—Plant of Whitman and Barnes will be completed this spring.

Sarnia.—The Holmes Foundry Co. is contemplating the erection of fifteen houses on its property at the north end of the city. The company will commence shortly on the construction of a plant and the houses will be built near their factory.

Premises formerly occupied by the Sarnia Metal Products Co. will be occupied by the H. H. Robertson Co., of Canada, a branch of the H. H. Robertson Co., Pittsburg. The company will manufacture asbestos-covered steel roofing and siding, ventilators, gutter and down pipes, skylights and asphalt paint.

A company of local men, with A. W. Brown as chief stockholder, has been formed, with a capital of $200,000. The company will establish an ice plant in this city.

Erection of foundry costing about $150,000 is contemplated by the Romeo Foundry Co., of Port Huron, Mich.

Tillsonburg.—The Tillsonburg Shoe Co. proposes to erect a $15,000 addition and instal machinery.

Toronto.—Work has started on the erection of a $20,000 two-story brick factory for the Standard Bedding Co., 27 Davies Ave.

The Canadian Photo-play Production, Ltd., will purchase site for about $150,000 and erect studio for the production of films.

The Toronto Structural Steel Company has accepted an offer of $150,000 for its land and buildings, with certain fixtures. The Ontario Investments, Limited, is taking over the remaining assets of the concern for $165,000 in cash and the assumption of all liabilities. The Structural Steel Co. has not paid preferred dividends since June, 1914.

Work has been started on the new plant of Gunn's, Limited, at West Toronto. The cost of this project will be from $500,000 to $700,000.

Alterations which will convert a hall into a factory are being made for the Canada Feather Mattress Co., 41 Spruce St.

Plans are being prepared for a one-story reinforced concrete addition to the factory of Aked & Co., Limited, 1067 Ossington Avenue.

Plans are being prepared for a $40,000 manufacturing plant for the Canadian Ice Machine Co., Limited, 82 Chestnut Street.

Savoy Candy Co., Limited, 362 Bathurst St., are erecting an $8,000 addition to their factory.

Robertson Bros., Limited, 103 Queen St. East, will shortly start the erection of a 5-story factory at a cost of $60,000.

Willards Chocolates, Limited, are erecting a $90,000 warehouse adjoining their factory on Wellington Street West.

The Neptune Company, of New York, the largest manufacturers of water meters in the world, are locating a branch plant in Toronto, having obtained floor space in the former munition factory of the Russell Motor Car Co., King and Dufferin Streets. A new company, the Neptune Meter Co., Limited, of Canada, is being incorporated, and W. H. Randall, formerly superintendent of water distribution of the City of Toronto, will be managing director. Besides making the Trident Meter, the Neptune Company manufacture the Webber subterranean pump, which is very largely used for deep well work, and the Fletcher carbureter for automobiles.

Announcement is made that the Reliance Knitting Co., of Toronto, and Zimmerman Mfg. Co., of Hamilton, have united under the name of Zimmerman-Reliance, Limited, with a capital of $2,000,000. The president of the new company is F. R. Sweeney, who has been president of the Reliance, while A. F. Zimmerman is vice-president and general manager. The combined companies will employ upwards of 600 people.

Seaman Kent Co., Ltd., 263 Wallace Ave., plan establishing manufacturing plant.

Tenders are open for excavating (trench work only), concrete and brick work for $15,000 three-story mill and brick factory for Dominion Electric Switch Box Co., 10 Croft Street.

Rous & Mann, Limited, designers and printers, announce that they are now occupying their new building at 172 Simcoe St.

A permit has been issued to W. Harris & Co. for the erection of a glue factory, 66 x 145 feet, four storeys high, to be built on Keating Street, near Cherry Street.

A permit has also been issued to the Toronto Steel Construction Co. for a one-storey steel and galvanized iron mill building, to cost $20,000. This factory is to be used for the fabrication of steel for use in high office buildings.

A $250,000 factory will be built by the Holeproof Hosiery Co. at the corner of Bathurst and Clarence Streets.

The Chase Tractor Co. will shortly commence to manufacture tractors in Toronto. They will occupy the building lately vacated by the Cluff Ammunition Co., at 28 Atlantic Ave., but when business develops will secure a site in the Eastern Harbor Terminal. R. J. Cluff is president of the company.

Walkerton.—To meet the continued growth of the Canadian textile industry, and their continually expanding trade among that industry, the Canada Spool and Bobbin Company, Limited, of Walkerton, Ont., are making an addition to their plant and building this spring to the extent of $13,000, the company asking the town to guarantee the bonds to the extent of $10,000. While not under the present name,, the company have been in continuous business for over seventy years. They have operated under the name of the Canada Spool & Bobbin Company, Limited, since 1906. During the past year they have had an output of over two million bobbins, and with the new and up-to-date automatic machinery they are installing, they will increase that capacity to nearly three million. All classes of bobbins and spools are manufactured, and the Canadian textile industry can be assured in the future of their needs in this line being adequately attended to.

Plans are in progress to convert the saddlery factory into an up-to-date manufactory of iron and steel goods. Frank L. Clark, Woodstock; C. C. Larson, engineer, Woodstock.

The Canada Spool and Bobbin factory will erect building at a cost of $7,000.

Walkerville.—The General Motors Co. will spend $6,000,000 within the next eighteen months in extensions and new construction work.

Waterloo.—The Charles Mueller Company, Limited, have let contracts for the erection of additional dry kilns, costing approximately $5,000.

Welland.—The Nicu Steel Corporation, Ltd., will utilize the Electric Steel and Metals plant for the manufacture of nickel steel. H. A. Morin, local manager.

Windsor.—The Auto Specialty Mfg. Co., of Canada, McDougall Avenue, are erecting a one-story brick and concrete factory at a cost of $50,000.

Erection of machine and assembling plants costing nearly $1,000,000 is contemplated by the Maxwell Motor Car Co.

The Champion Spark Plug Co. will erect a plant costing $95,000.

B. H. Marsh will erect a candy factory this year at a cost of about $40,000.

A building permit has been taken out by the Kelsey Wheel Co. for addition to plant costing $15,000.

The International Castings Co., Ltd., is completing a modern casting foundry at the corner of Chippewa and Back Streets, which will cost about $50,000.

Wingham.—Aero Cushion Inner Tire Co. plans erection of factory.

The Seagrave Fire-fighting Appliance Co. expects to establish a big motor industry somewhere in Western Ontario. The Wingham Board of Trade hope to secure the industry for this town.

QUEBEC

Bedford.—Tenders are being received for a new needle factory.

Montreal.—Work has commenced on the erection of a two-story brick factory for the Barrett Co., Limited, 2021 St. Hubert Street.

The Canadian Footwear Co., of St. Genevieve St., has commissioned Alphonso Piche, architect, to prepare plans for extensive addition and alteration to their factory.

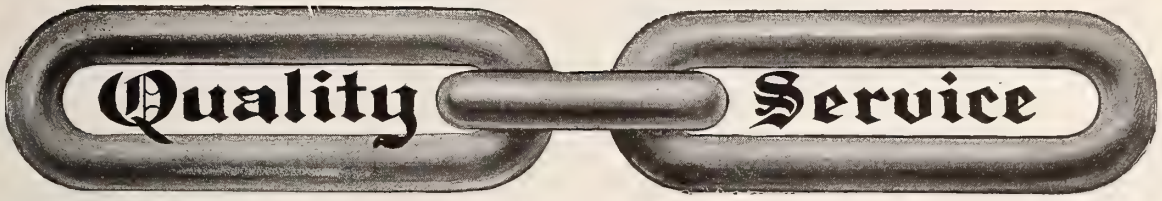
Work has started for repairs to factory for Mark Fisher Sons & C., Craig Street.

Gagnon, Lachapelle & Hebert, 55 Kent Street, plan erection of addition to factory.

The Alaska Bedding Co. have completed the extension to their manufactory.

The Crane Co., Ltd., plant is going ahead rapidly. The major part of this $730,000 factory will probably be completed by May.

A branch of the Canadian Link-Belt Company, Limited, has been opened at 1195 St. James Street, for the convenience of customers in the eastern section of Canada. A liberal stock of



INDISPENSABLE LINKS

In the Successful Business Chain

Throughout our entire organization, we recognize and adhere to the highest standards of QUALITY and SERVICE. And upon this—in the future as in the past—the expansion and prosperity of our business depend.

IN OUR MILLS AND FACTORIES

Quality

IN OUR SALES DEPARTMENTS

Service

Believing QUALITY and SERVICE are the indispensable links between producer and consumer, we employ their combined strength to conserve and complete our relationship with all users of Steel and Iron products.

THE

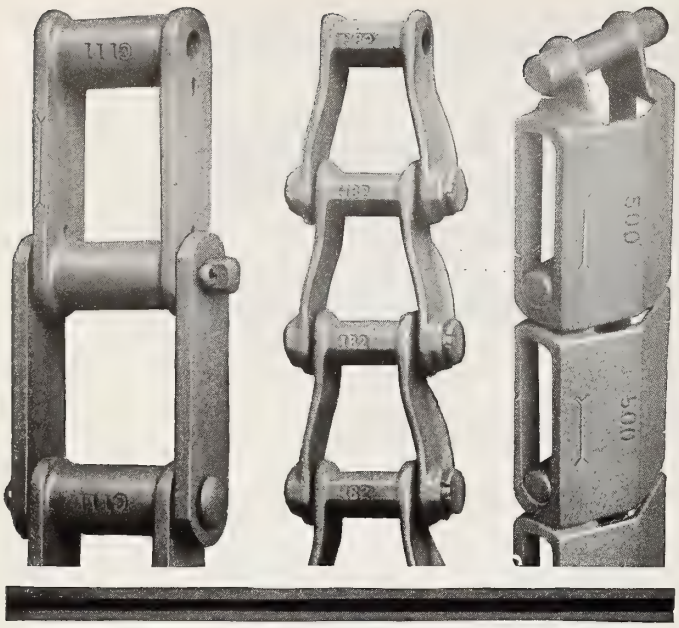
STEEL COMPANY

OF

CANADA

LIMITED

HAMILTON - - MONTREAL



LINK-BELT

For Every Purpose

WHETHER your problem is one of power transmission, elevating or conveying, we have a type of Link-Belt especially designed for the purpose.

And when we say "especially designed" we mean it. For our engineers have spent years in the study of the peculiar conditions and requirements which various industries place upon Link-Belt. Each type has been designed not with the thought of how cheaply it can be made, but how perfectly it can serve its purpose. We show a few types. Our catalog shows many others. Send for a copy.

Look for this Mark on Every Link — **It is your guarantee of service and satisfaction.**

CANADIAN LINK-BELT CO., Ltd.

Wellington and Peter Streets
TORONTO

Stock also carried at 1195 St. James Street, MONTREAL, Que.

popular types of Link-Belt will be carried in stock at Montreal in the future, from which all orders in that section will be promptly filled. This will not only enable the Canadian Link-Belt Company to render its customers a more prompt service than has hitherto been possible, but will also effect for them a considerable saving in freight and express. For the present, the Montreal branch will serve largely as a warehouse, all engineering assistance being rendered by the Canadian Link-Belt Company at Toronto, where Link-Belt is manufactured for the Canadian market. Although shipments for the Montreal and Quebec territory will be shipped from the Montreal branch, all correspondence should continue to be addressed to the Canadian Link-Belt Company, Toronto.

Excavation has been commenced for the three-story addition to the factory of the Tetreault Shoe Co., corner of Savoie and Demontigny Streets East.

Capuano and Pasquale Co., Ltd., contemplate the erection of a cigar factory on Windsor Street.

The Dominion Bridge Co. have been awarded the steel contract for the factory extension of La Reina Mineral and Soda Water Co., Ltd., Duvernay Street.

Walls are being erected for $5,000 two-story brick addition to factory for L. O. Grothe, Ltd., 556 St. Lawrence Blvd.

The Montreal Portland Cement Company, formed of British and Belgian capital, have purchased a site of 54 acres at Pointe-Aux-Trembles for $40,000, and work will soon begin on new cement plant to cost $250,000, and eventually turn out 4,500 barrels a day. The company has received exemption from taxation and free water for twenty acres from municipalities at Trenton. President Robert Dodd said no stock will be issued in Canada. The company will be producing 500 barrels daily by September.

Dominion Flour Mills, 300 St. Ambrose Street, plans $10,000 addition to plant.

St. Henry Show Co., 1581 Notre Dame Street West, plans $25,000 extension to factory.

Sherbrooke.—The MacKinnon Steel Co., Limited, have just taken a contract for the supply of all necessary steel work in connection with eight-story apartment house being erected on Drummond Street, Montreal, by P. R. DuTrembaly. The name of the general contractor is Alex. MacKay, Montreal. The valuation of the complete structure is five hundred thousand dollars, and the steel work will amount to approximately sixty thousand dollars.

SASKATCHEWAN

Saskatoon.—The Continental Oil Co., according to report, has decided to make Saskatoon its headquarters for northern Saskatchewan, having secured location for a filling station and offices. The company recently announced their intention of erecting a million dollar plant in Regina, and a large new warehouse and 30,000 gallons tankage is also to be alloted to Prince Albert, while the tankage at Saskatoon will be increased.

Canada's Lumber Output

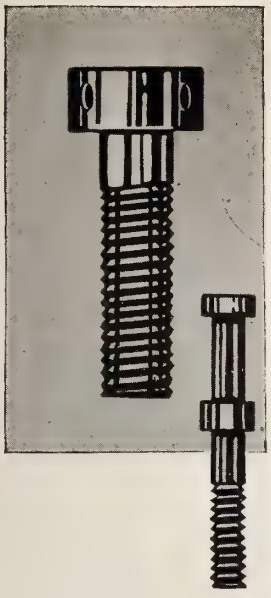
Canada's saw-mills produce annually from 3,000,000,000 to 4,000,000,000 feet of lumber, 95 per cent. of which is coniferous, it is stated in a new booklet issued by the Forestry Branch Department of the Interior, entitled "Important Facts about Canadian Tree Species."

It has been estimated that Canada's forests contain 600,000,000,000 feet board measure of saw timber, an estimate which does not include an enormous volume of smaller material suitable for the manufacture of pulp and for railway ties, poles, piles, posts, spars of ships, and other commodities made of material too small for sawing into lumber, according to the booklet.

Keep Electric Lamps Clean

Dirty electric lamps are inefficient and wasteful. A recent investigation in a large establishment disclosed interesting figures in the extent of this waste. A group of lamps with a week's accumulation of dirt showed an average absorption of light of 16 per cent., some of them running as high as nearly 20 per cent. Another group which had been used for three weeks had an average absorption of 22 per cent., with a maximum of over 26 per cent. Figuring on this basis, 16 per cent. more lamps at the end of one week, or 22 per cent. at the end of three weeks, would be required to obtain the same illumination that would have been obtained if the lamps were kept clean. This, of course, meant a corresponding increase in the electric light bill.—L. G. D.

SHEET METAL STAMPINGS and AUTOMATIC SCREW MACHINE PRODUCTS



Government precision calls for work that is absolutely perfect in each detail. We have supplied that work, and our experts and modern machinery used in so doing now stand at our customers' disposal running with the same accuracy.

Years of experience have taught us how to discriminate in selecting our material so that the work produced is of the finest quality and workmanship, while our prices remain reasonable and popular.

We will be pleased to give you our estimate on your next order.

CARON BROTHERS
CARON BUILDING
233-239 Bleury St. - - MONTREAL

Canadian Carbonate Company, Limited

Offices and Factories:

HALIFAX, MONTREAL, TORONTO

WINNIPEG, VANCOUVER

■

Manufacturers of

"CROWN BRAND" LIQUID CARBONIC ACID GAS

TRADE ENQUIRIES

These enquiries come into our hands from various sources. The Weekly Bulletin of the Department of Trade and Commerce, from which the enquiries indicated in the sub-heading allotted to them are taken should be read regularly by those interested in foreign trade. It will be sent free on application to the Department at Ottawa. Names connected with those enquiries can be furnished direct from the Commercial Intelligence Dept., Canadian Manufacturers Association, Toronto

DOMESTIC TRADE ENQUIRIES

301. **Nut Bowl.**—A correspondent, controlling the Canadian patent on a wooden bowl with metal nut-cracking anvil in centre, already well advertised in the United States, is interested in hearing from manufacturers who will purchase outright or make these bowls on a royalty basis.

302 **Benzol.**—A firm in Ontario is desirous of obtaining supplies of Benzol.

303. **Agencies for British Columbia.**—A correspondent is desirous of getting in touch with manufacturers of miscellaneous lines, with a view to representing them in British Columbia.

304. **Agencies.**—A commission merchant in Nova Scotia would like to get in touch with a number of millers who are not already represented in the Maritime Provinces.

305. **Agencies.**—We are in touch with a party who has been manager of a Winnipeg company for a number of years and is now going into the manufacturers' agency field. He wishes to hear from manufacturers not now represented in the West.

EXPORT TRADE ENQUIRIES

306. **Machinery.**—A London firm would like to have copies of catalogues and price lists of machinery used in the production of powdered milk (which must be soluble in cold water), and also full cream condensed milk, sweetened and unsweetened. Catalogues to be in duplicate, with lowest prices f.o.b.

307. **West Indies.**—A party in Dutch West Indies wishes to represent Canadian manufacturers of corn meal, rye flour, crackers, etc.

308. **Canned Fruits and Vegetables.**—A gentleman in London would like to hear from Canadian manufacturers of canned fruits, canned vegetables, canned fish, dried fruits, etc. He states that he can place large orders in these lines.

309. **Agencies.**—An indent and manufacturers' agent desires to represent Canadian manufacturers in New Zealand.

310. **France.**—We are in communication with a party in Paris, who has supplied satisfactory business and bank references, who wishes to act as agent for Canadian firms desiring export representation in France, Algeria and Morocco. He has been engaged in import and export trade in France for a number of years and has had considerable experience in the following lines: Automobile and machinery parts, steel cables and chemicals.

311. **Agencies.**—An agent in London would like to represent Canadian manufacturers of buttons, dolls and toys.

312. **Building Materials, etc.**—A firm in Australia, with branches in Sydney, Melbourne, Brisbane, Perth, etc., would like to hear from manufacturers of building materials, 3-ply wood, plaster, shafting, etc.

313. **Agencies.**—A St. Catharines gentleman, who is going to Great Britain, wishes to represent Canadian manufacturers.

314. **Agencies.**—We are in communication with a firm in Liverpool who are desirous of getting in touch with manufacturers who wish to be represented in England. They state that they are in a position to handle general merchandise.

315. **France.**—We have an enquiry from a manufacturers' agent in France who wishes to represent Canadian manufacturers of condensed milk, condensed cocoa, preserves, and dry vegetables in France, Belgium and Alsace-Lorraine.

316. **Binder Twine and Jute Bags.**—A manufacturers' agent in France would like to get in touch with manufacturers of binder twine and jute bags for cereals, with a view to representing them in France.

317. **Agencies.**—A correspondent, who has been in Canada for two years and has just returned to England, is anxious to secure a good agency for enamelled ware.

318. **Australia.**—A firm of import and export merchants in Adelaide would like to hear from Canadian manufacturers who wish to export their products.

319. **France.**—A correspondent in France, who expects to visit Canada shortly, is interested in developing trade between Canada and France, and would like to get in touch with Canadian manufacturers interested in this subject.

320. **Australia.**—We have an enquiry from an Australian soldier who has some capital to invest in a good proposition for Australia.

HELPING to SPEED the MAKING of MARINE BOILERS for "MORE SHIPS"



Commercial Acetylene is to be found in many such plants in all parts of Canada and the United States.

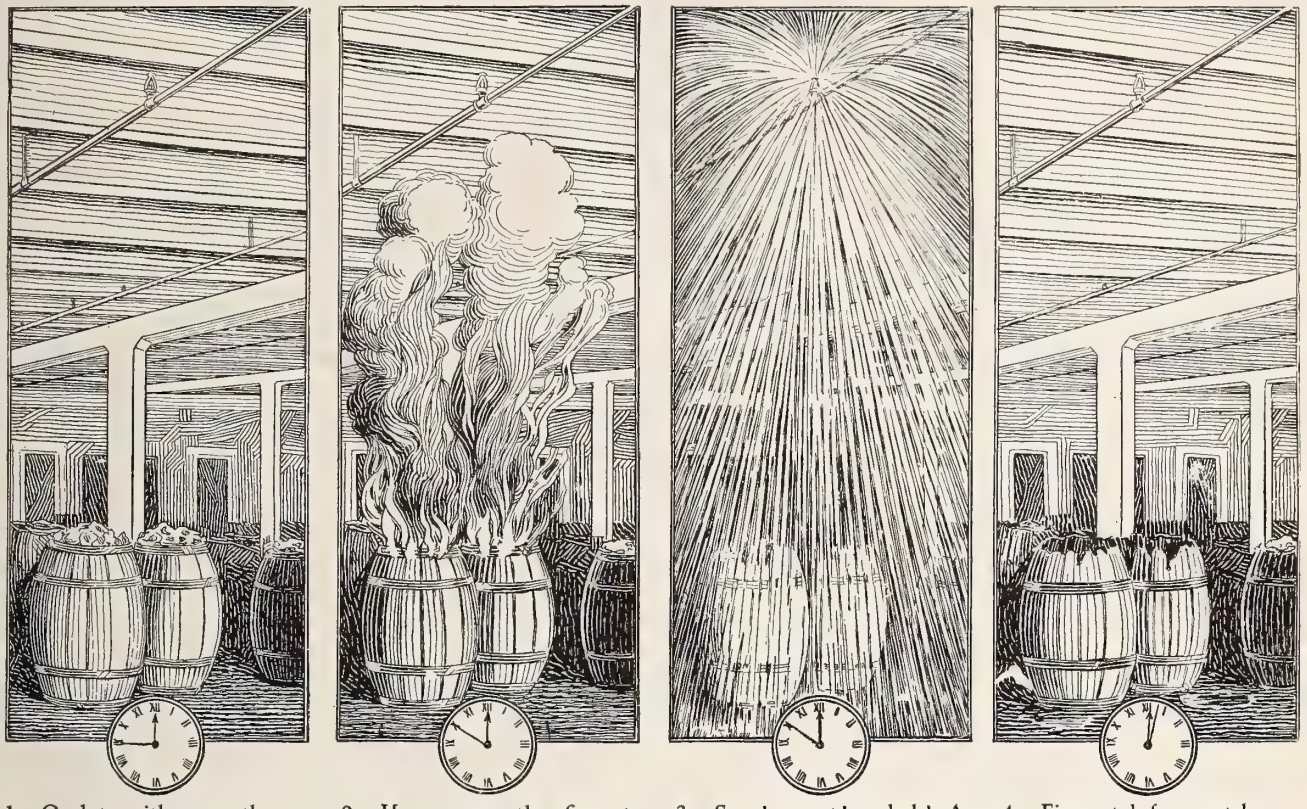
Are you familiar with our service and the quality of the gas we supply?

Main Office:
80 BROADWAY, NEW YORK

Branches

ATLANTA, GA.
AURORA, ILL.
BOSTON, MASS.
BOUND BROOK, N.J.
EAST DEERFIELD, MASS.
SAN FRANCISCO, CALIF.
MOBERLY, MO.
W. BERKELEY, CALIF.

Commercial Acetylene Supply Co., Inc.
18 TORONTO STREET, TORONTO



1. On duty with many others, waiting for a fire—waiting, perhaps, for thirty years, up in the dust and cobwebs near the ceiling.

2. Here comes the fire at midnight! The column of heat rises, and at 155° the fusible strut in the nearest Grinnell softens and melts.

3. Snap!—spurt!—splash! A drenching downpour, right on the heart of the fire, and there only. Alarm bell clanging in the distance.

4. Fire out before watchman arrives. Water turned off. No damage worth reporting. Next morning—business going on as usual.

SNAP !---SPURT !---SPLASH !

Here's a "GRINNELL" in Action!

FIRE can't start under a Grinnell Automatic Sprinkler System without starting the Sprinkler overhead. Just as sure as fire means ascending heat the fusible strut in a Grinnell Sprinkler head will melt at 155°, and release a drenching downpour of spray and ring the Fire Alarm.

If you own and occupy your own building, the saving in Insurance pays for the System in from three to seven years. If you don't have Sprinklers, you are paying for them anyway, and not getting the protection.

The best Sprinkler System is the Grinnell. Its price is a shade higher and it gets the price right along.

The Grinnell Standard is higher than the Fire Underwriters require. We don't try to see how close we can skate to the line. We are not content with satisfying minimum regulations. We undertake to give infallible fire protection. We maintain the only research laboratories in the trade.

A hundred Grinnell engineers have the whole technique of sprinkler engineering at their finger tips. Grinnell's, today, protects more property than all other systems put together.

Write us and get the facts and figures today.—Without cost or obligation to you.

CANADIAN GENERAL FIRE EXTINGUISHER CO.

LIMITED.

W. L. HORN, Managing Director

TORONTO, ONT.—2440 DUNDAS ST.
WINNIPEG, MAN.—910 SOMERSET BLDG.
MONTREAL, QUE.—370 BEAUMONT AVE.
VANCOUVER, B.C.—1140 HAMILTON ST.

SERVICE SPECIALISTS on G. F. E. Fittings, Steam and Hot Water Heating Installations, Power Piping.

321. **Representative.**—A correspondent, who has been in Canada for twelve years and has had several years' experience as a traveller, is desirous of communicating with firms who would like to send a representative to the Old Country. He states that he can produce good references as to honesty, etc.

322. **Mexico.**—An enquirer in Mexico is desirous of establishing commercial relations with Canada and asks for catalogues, prices, freight conditions and general information concerning machinery, fish, preserves, and any other products that Canadian houses may be prepared to export.

323. **Italy.**—A gentleman in Genoa would be glad to correspond with Canadian manufacturers desirous of opening up business in Italy.

324. **France.**—A firm in Bordeaux, having good business connections, are anxious to get in touch with manufacturers who wish to export their products.

325. **Agencies.**—An import agent in Paris, who has gathered some information about requirements in Roumania, would like to hear from Canadian manufacturers who are interested in granting sole representation to him for Roumanian requirements.

EXPORT TRADE ENQUIRIES TAKEN FROM THE WEEKLY BULLETIN OF THE DEPARTMENT OF TRADE AND COMMERCE.

326. **Chocolates.**—A London firm is desirous of securing the representation of a Canadian manufacturer of chocolates.

RIDOUT & MAYBEE
Solicitors of Patents
Counsel, Solicitors and Experts in
PATENT SUITS
Agencies in the leading countries of the World.
EDWARD MAYBEE, Mech. Eng. J. F. EDGAR, Counsel
KENT BLDG., YONGE STREET, TORONTO

CANADIAN COLLAPSIBLE TUBE CO., Limited
MANUFACTURERS OF
" Premier " Pure Tin, Plain and Decorated Collapsible Tubes
121 RICHMOND ST. WEST - - - TORONTO

"BEATTY"



Material Handling Plant has back of it 55 years of successful experience.
HOISTING ENGINES
STEEL DERRICKS
DIPPER DREDGES
CLAMSHELL BUCKETS
DERRICK IRONS
SUCTION DREDGES
etc.

Write us for Catalogue 21 and Prices
M. BEATTY & SONS, Limited, WELLAND
AGENTS:
H. E. Plant, 1790 St. James St., Montreal
R. Hamilton & Co., Vancouver
Kelley-Powell Ltd., Winnipeg
E. Leonard & Sons, St. John

327. **Upholsterers' Leather.**—A firm in Scotland asks to be placed in touch with Canadian manufacturers of upholsterers' leather for use by furniture makers, motor car body builders, and for ship furnishing. They are prepared to buy either outright or upon a commission basis, and to submit samples of hide patterns as used by their customers.

328. **Tool Handles.**—A merchant having an extensive business in South Wales desires to secures supplies of tool handles in hickory, ash and maple, from Canada. Handles required for all kinds of colliery, garden, agricultural and domestic tools in large quantities. Would also consider offers of pit-props.

329. **Agency.**—A merchant in Palermo, Italy, would like to have the sole agency in Sicily for Canadian manufactures of the following articles: Gelatine leaves, or sheets, paper, carbon, writing materials, perfumes, brushes, combs, razors, and articles of the coiffeur, shoe polishes and rubber boots, and other articles of similar nature.

330. **Ready-made Doors.**—A Sheffield firm asks for names of Canadian exporters of ready-made wooden doors.

331. **Dowels.**—A London firm desires to be placed in communication with reliable manufacturers of dowels in Canada.

332. **Woodenware and Hardware.**—An important London company, who are large buyers of broom handles, implement handles, washboards, dowels, clothes pegs, and all kinds of small turnery, are prepared to place orders for large and regular quantities with Canadian manufacturers, and in this connection to send out a representative to Canada if prospects of securing supplies are favorable. In the meantime they would like to hear from actual Canadian manufacturers possessing the necessary output capacity for handling export trade.

333. **Sole Bends and Waxed Splits.**—A Liverpool firm wishes to receive offers of the above.

334. **Sole Bends and Upper Leather.**—A Liverpool firm is interested in offers of the best grades of the above.

335. **Boots and Shoes.**—A Liverpool retail firm, who buy in considerable quantities direct from the United States, wishes to get into communication with Canadian manufacturers of the above.

336. **Woodenware and Hardware Goods.**—A firm in the north of Ireland wishes to be placed in touch with Canadian manufacturers of the following articles, for whom they are prepared to act either by purchasing or upon a commission basis: Washboards, clothes pegs, paper for felt making, wire nails and bale ties, whisks and brooms, iron or steel shoe rivets.

337. **Steel Hinges.**—A Midlands company wishes to get into touch with Canadian manufacturers of steel hinges.

338. **Wall Papers.**—A London firm wishes to purchase Canadian wall papers of English dimensions, i.e., 21 inches wide by 12 yards long.

339. **Sole Leather.**—A Lancashire firm asks to be placed in touch with exporters of sole leather.

340. **Birch Dowels.**—A Liverpool firm is in a position to place orders for birch dowels as follows: 20,000 ⅜ inch by 36 inch; 10,000 7-16 inch by 36 inch; 10,000 ½ inch by 48 inch; 10,000 ⅝ inch by 42 inch. They also wish quotations, c.i.f. Liverpool, on lengths up to 72 inches in ⅜ inch, 7-16 inch and ½ inch for a special order.

341. **Boots and Shoes.**—A Liverpool firm is interested in communicating with Canadian manufacturers of welted glace kid, box calf and willow calf boots and shoes. Medium and full toe lasts. No extreme shapes.

342. **Boits and Shoes.**—A Belfast firm wishes to secure a sole buying agency for Ireland for gentlemen's good class footwear in glace kid, box calf, willow calf, etc.

343. **Agency.**—A commission merchant in Lyons, France, interested in Canadian products at Lyons Fair, desires to obtain a special agency for entire France for the sale of Canadian products. Full details will be supplied in reply to direct communication.

344. **Food Products.**—A Toulouse firm, interested in Canadian exhibits at the Lyons Fair, desires to represent Canadian producers of all kinds of food products in Southern France, Tunisia and Morocco. The firm claims to be very well organized in these countries and to be in a position to furnish a big volume of business. References supplied.

Exports from Forests

Reports of the Trade and Commerce Department show that, for the year ending November, 1918, Canadian exports of primary forest products totalled $64,281,861. This is an increase of 22 per cent. over the previous year. The exports from the forest were very nearly double those from the fisheries, and were 85 per cent. of those from the mine. In addition to the primary forest products, consisting mainly of lumber and unmanufactured wood in various forms, wood pulp was exported amounting to $32,580,619, which wood in manufactured form, not otherwise covered, totalled $826,551. These figures are an indication of the economic importance of Canada's forests, in the development of her foreign trade. —C.L.

WELLS AND GRAY, LIMITED

ENGINEERS AND CONTRACTORS

Branch Office :
Bank of Commerce Building
Windsor, Ontario

Head Office :
701 Confederation Life Building
Toronto, Ontario

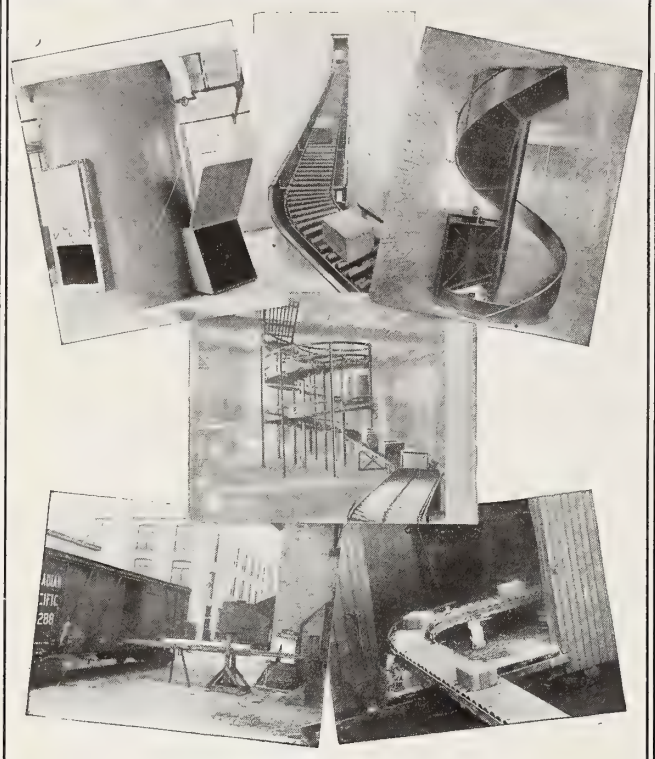
LIST OF WORK DONE DURING 1918

BUILDING	OWNER	LOCATION	APPROX. VALUE
Extension to Plant	Ford Motor Co.	Ford, Ont.	$65,000.00
Shot Tower	Peters Cartridge Co.	Kings Mills, Ohio	117,000.00
Primer Building	" " "	" " "	48,000.00
Miscellaneous Work	" " "	" " "	20,000.00
Extension to Roundhouse and Machine Shop, etc.	Canadian Pacific Railway	John St., Toronto	64,000.00
Cooler Building	Harris Abattoir Co.	West Toronto	90,000.00
Fire Loss Repairs and Extensions	" " "	" "	56,000.00
Extensions to Plant	Dominion Forge and Stamping Co.	Ford, Ont.	43,000.00
New Factory	Ideal Fence and Spring Co.	Windsor, Ont.	86,000.00
Extensions to Plant	Kelsey Wheel Co.	" "	3,200.00
Extension of Power Plant	Canadian Salt Co.	" "	3,000.00
Factory Building	Hiram Walker Metal Products Co., Ltd.	Walkerville, Ont.	63,000.00
Factory Buildings	Commonwealth Chemical Co.	" "	17,000.00
Gas Producer Building	Dominion Glass Co.	Wallaceburg, Ont.	6,300.00
Condenser Tank	Public Cold Storage Co.	Toronto, Ont.	10,000.00
Ice House	Canadian Pacific Railway	West Toronto	33,000.00
Ice House	" " "	North Toronto	2,000.00
		Total	$726,500.00

Of this total $500,000.00 worth of work was done on a percentage basis.

Every one of the above contracts was obtained, because we had previously given satisfaction on other contracts for the same owners.

WELLS AND GRAY, LIMITED



For Full Information Write for Catalog I

Canadian Mathews Gravity Carrier Co., Ltd.

PORT HOPE, ONT.

Manufacturers and Erectors of

STRUCTURAL STEEL AND STEEL PLATE WORK

of all kinds



BRIDGES A SPECIALTY

MACKINNON STEEL CO.

LIMITED

SHERBROOKE - - QUEBEC

Montreal Office : 404 NEW BIRKS BUILDING

A Made-in-Canada Motor Truck

The Clyde Car Company Canada, Limited, Are Now Manufacturing a Truck Almost Wholly Made in Canada

A prominent manufacturer and member of the Canadian Manufacturers Association recently purchased an American-made motor truck. It is true that the truck purchased was a high-grade article, but it was a product of the United States, and consequently 75 per cent. of the price paid (plus an exchange probably of 2¾ per cent.) by this manufacturer was sent to the United States, where it will remain and not likely again be spent in Canada.

The question of why a Canadian-made motor truck was not purchased, was discussed with this manufacturer, and he stated that so far as he knew, only one truck was made in Canada, and that truck was not at all serviceable enough to suit his requirements. He was informed that the Clydesdale, a truck of British design, was made in Toronto, Canada, and that it was not merely an assembly of United States material imported, but a truck made, with the exception of a few small units at present unobtainable in Canada, entirely of Canadian material, the product of Canadian manufacturers.

The Clyde Cars Company, Canada, Limited, were organized for the purpose of manufacturing Clydesdale trucks for Canada and the British colonies. They are, and have been, manufacturing trucks in Toronto actually, since last October. It has not been their policy to endeavor to popularize their product, purely on account of the fact that it was a product of Canada. All they expected was an opportunity to show their product, and then, being able to demonstrate the fact that the Clydesdale was equal to the best American product, have that preference given to it that should be given to it or a Canadian product.

A goodly number of Clydesdale trucks are in use in Canada and giving to their users utmost satisfaction. The Clydesdale has also been manufactured in the United States for the past four years, but more Clydesdales are in use in the United Kingdom and the British colonies than in the United States.

On account of labor conditions in England, an order is enroute to the Canadian plant for 100 Clydesdale trucks for the English market. These activities in the export field most certainly assist in the wide distribution of Canadian materials, and it would seem as though Canadian purchasers ought to go out of their way to patronize their Canadian industries.

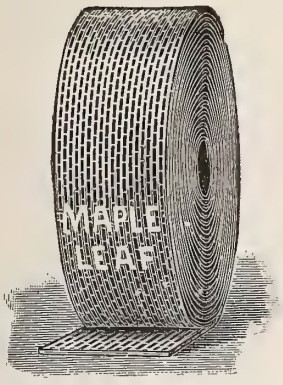
Formed Ottawa Branch

Builders and Contractors at the Capital Link Up with New Dominion Association

The Ottawa branch of the Association of Canadian Building and Construction Industries came into existence at a meeting of the capital's contractors and supply dealers in the Chateau Laurier on April 16th. Close to one hundred attended the meeting, and great enthusiasm was shown by those present who were in favor of organizing only as a branch of the Canadian Association. In the past years several associations have been formed by the Ottawa contractors, but interest in the local organizations gradually died out; however, their new formation promises to put the branch on the list of "live wires"; and it was the unanimous decision of the contractors at the meeting to get their branch on the active list by starting off with generous subscriptions to carry on the work.

Mr. J. P. Anglin, president of the Association of Canadian Building and Construction industries, and Mr. A. S. Clarson, general secretary, were present and assisted materially in the work organization.

Dominion Belting Co., Limited
Hamilton, Canada



SOLE MANUFACTURERS OF THE CELEBRATED

"MAPLE LEAF" BRAND

STITCHED COTTON DUCK BELTING—

STRONG DURABLE ECONOMICAL
TRUE RUNNING

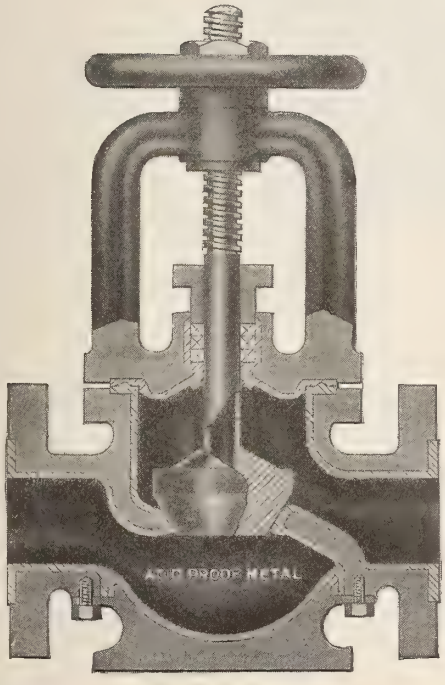
Being thoroughly waterproof it is equally good for running in wet or dry places. As a main drive belt, "MAPLE LEAF" cannot be excelled and for conveyors it is in great demand. A trial belt will convince you

MAPLE LEAF BELT DRESSING
The Best for all kinds of Belts

WRITE FOR SAMPLE AND PRICES

Quebec Branch: 51 Duluth Building, Montreal

Acid Resisting Pump Valves



We wish to call your careful attention to our line of Acid Resisting Pumps, Valves and Fittings, they are absolutely perfect in detail. In price comparison with Acid Resisting Bronze Valves, etc., they make an enormous saving in your initial cost.

For lining Acid Tanks, Agitators, and Sulphite or Sulphate Vats, Hoyt's Sheet Metal will give far better service than the ordinary Chemical Sheet Lead in the market. If you will write us stating conditions under which your Sheet Lead is operating, we would be pleased to go into the matter fully and will convince you of the economy of Hoyt's Sheet Metal.

Write for Catalogue

HOYT METAL COMPANY

FACTORIES:
London, England; Toronto, Canada; St. Louis, Mo.
New York, N.Y.

New Tariff Regulations

Canadian Prohibited Exports

Those articles now prohibited from export under regulations of the Canadian Trade Commission are listed in a recent instruction issued by the Commissioner of Customs to Collectors. The regulations provide as follows:—

"1. For export to the United States, the United Kingdom, France (including Alsace and Lorraine), Belgium, Italy, Japan, and their possessions and protectorates, collectors of customs at ports of exit may, by endorsation of the usual shipper's export entries, license shipments of all commodities except the following:—Gold Coin, Gold Bullion, Fine Gold Bars, Canadian Silver Coin, Silver Bullion, Fine Silver Bars, Cinchona Bark and products, Quinine and its compounds, Cocaine, Opium, Opium Gum and its products, Wheat, Wheat Flour and Farina, Butter, Cheese, Sugars, Syrups and Molasses, Mill Screenings and Screenings of Grain, Canned Salmon.

2. Individual licenses shall be required for export of the following goods to all destinations:—Gold Coin, Gold Bullion, Fine Gold Bars, Canadian Silver Coin, Silver Bullion, Fine Silver Bars, Cinchona Bark and products, Quinine and its compounds, Cocaine, Opium, Opium Gum and its products, Wheat, Wheat Flour and Farina, Butter, Cheese, Sugars, Syrups and Molasses, Mill Screenings and Screenings of Grain, Canned Salmon.

3. Individual licenses shall also be required for all prohibited exports to destinations other than the United States, the United Kingdom, France (including Alsace and Lorraine), Belgium, Italy, Japan, and their possessions and protectorates.

4. Applications for licenses to export the various forms of gold and silves above mentioned to be addressed to the Deputy Minister of Finance, Ottawa.

5. Applications for licenses to export wheat to be addressed to the Chairman, Board of Grain Supervisors, Winnipeg.

6. Applications for licenses to export all other other goods to be addressed to the Canadian Trade Commission, Ottawa.

7. Shipments of goods on the prohibited list, when the value of no one commodity exceeds $100, may be licensed by the endorsement of the collector of customs at the point of exit on the usual shippers' export entry.

8. In the case of shipments by parcel post when the value of no one commodity exceeds $100, postmasters may accept same for transmission without license."

Board of Customs Decisions

Die blocks and similar hammered or forged materials of steel, declared to be dutiable under tariff item 393. The general tariff rate under item 393 is 30 per cent. *ad valorem.*

Formaldehyde, per sample, declared to be dutiable under tariff item 219 (*a*). Under item 219 (*a*) the general tariff rate is 25 per cent. *ad valorem.*

Vegetable scoops, with tines closed by cross bars at outer end, per illustration, declared to be dutiable under tariff item 450. Under item 450 the general tariff rate is 32½ per cent. *ad valorem.*

Departmental Rulings

"Japanole" black stain from Restorff & Bettmann, used as a leather dye, found to be alcoholic, and therefore dutiable at $3 per gallon plus the war tax under tariff item 156.

The following articles for the equipment of ships and vessels are manufactured in commercial quantities in Canada:

BLACK AND GALVANIZED.

Pipe turn buckles from ½ inch to 2 inches, inclusive.

Pulley blocks, wood or iron, single, double and triple, up to 16 inches in diameter.

Anchor shackles, screw pin or plain cotter, ¾ inch to 1⅜ inches, inclusive (diameter of pins).

Waste sulphite liquor, condensed, ruled to be dutiable at 17½ per cent. under tariff item 711.

McClary's

Specialists in

HOTEL AND INSTITUTION KITCHEN APPLIANCES

and Manufacturers of the "FAMOUS" line of Goods including

Coal and Wood
FURNACES

Electric, Gas, Coal and Wood
STEEL AND CAST RANGES

Coal, Gas, Wood and Oil
HEATERS

ENAMELWARE, TINWARE AND OTHER KITCHEN WARE

LONDON TORONTO MONTREAL WINNIPEG VANCOUVER

McClary's

ST. JOHN, N.B. HAMILTON CALGARY SASKATOON EDMONTON

BATHURST

If You Need Lumber— Write Bathurst

That's the way to assure economy and satisfaction. Our timber limits cover 1,500 square miles. We specialize in

BAND-SAWN SPRUCE AND WHITE PINE



We operate a complete planing and resaw mill. Nowhere can you get better quality or closer prices than from us.

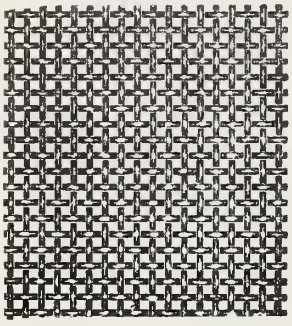
Also Kraft and Unbleached Sulphite Pulp

Send us your name to put on our regular mailing list for periodical stock lists containing many special offerings of interest to every buyer of lumber.

BATHURST LUMBER CO., LIMITED
BATHURST, N.B.

Canada Wire & Iron Goods Co.

HAMILTON - - CANADA



Manufacturers of
Double Crimped Wire Cloth and Wire Screening
for all purposes.
Overhead Wire Guards for Freight and Passenger Elevators

There is no kind of Wire Fabric required in the production of any machine or manufactured article that we cannot furnish.

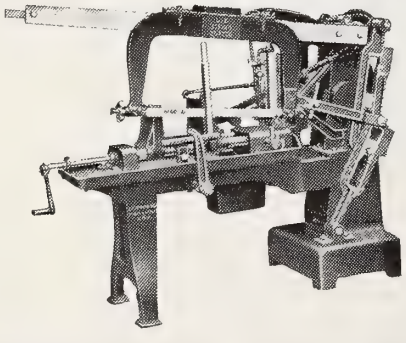
We also manufacture:—

Bank and Office Grilles and Ornamental Iron Work in all finishes.

Wire Guards for Factory Windows, Moulders' Riddles, Laboratory Testing Sieves, Steel Factory Stools and Metal Lockers.

Send for Catalogue — Enquiries Solicited

Atkins Kwik-Kut Metal-Cutting Machines



Our exclusive patents enable you to use practically the entire blade on all sizes of material. The length of the stroke is automatically changed as the material is fastened in the vise. This increased blade travel permits faster cutting at less speed and results in less wear on all working parts, longer life to the machine, and big savings in Hack Saw Blades. Write for literature describing and explaining details fully.

E. C. Atkins & Company, Inc.

Established 1857

THE STERLING QUALITY SAW PEOPLE

Canadian Factory: Hamilton, Ontario

Branch House: Vancouver, B.C.

Fibre chair seats, curtain stretchers and curtain poles ruled to be dutiable at 30 per cent. under tariff item 519.

Under Customs memo. 2307-B, the war tariff of 7½ per cent. on imported articles will no longer apply on foreign excise duties. The ordinary Customs duty (not war tax), however, will apply as heretofore on the fair market value as sold for home consumption, including excise.

Bronzing machine ruled to be dutiable at 27½ per cent. under tariff item 453.

Exports to Great Britain

In the April number of INDUSTRIAL CANADA announcement was made that the British authorities had removed all restrictions on importations into the United Kingdom of goods which are exported from and are the produce or manufacture of the Dominion of Canada, except

(*a*) Gold or articles containing gold, except when consigned direct to the Bank of England;
(*b*) Spirits, other than brandy and rum;
(*c*) Hops.

The Canadian Trade Commission, under date April 22nd, advise that the United Kingdom import restrictions have been removed from spirits, and from articles made of or containing gold, provided the same were produced in and exported from British Dominions. The Canadian Trade Commission state that the only article now remaining on the British import restrictions against Canada is hops.

Our Industrial Opportunities

("Charlottetown Guardian")

In deploring the want of industrial activity in this province we are too liable to overlook the industries we already have; too liable also to reach out after too many and too comprehensive undertakings. We already have quite a respectable number of industries but the extreme modesty characteristic of our captains of industry has held a veil over these that has prevented the public from knowing very much about them.

It is known perhaps only to a comparative few that we have in Charlottetown a canning plant the annual turnover of which is, on an average, $100,000; that has a plant capable of putting up 500 cases of small fruit daily; that last year put up 10,000 cases of 48-pound cans each of vegetables and beef; that during the past season, October, November and December packed one hundred tons of poultry, about one-third of the whole poultry output of the province and for which it paid to the farmers $43,000. This industry employs thirty to thirty-five hands and pays about $12,000 a month in wages. We refer to the canning and packing plant of Mr. J. D. Jenkins.

Mr. Jenkins has been in this business for about ten years. He began in a modest way, in a small shop, slowly added to his plant as required, slowly extended his business by adhering strictly to his original determination to put up the best quality possible, and to pay a reasonable price for his raw material.

Under present conditions this factory is working at capacity only a few months of the year; it could be kept going the year round by adding a number of other possible lines, such as the canning of apples, of which we can produce an abundance of a quality unexcelled anywhere; the canning of pumpkins, which we can grow by the ton, in odd corners of our farms and for which there is an unlimited market.

This factory has an up-to-date plant, with a capacity of 500 cases or more daily.

In casting about for possible industries along agricultural lines, here is a model from which the Industrial Development Committee can obtain valuable information; can possibly find a means for extension and investment. In any case it affords ample proof of the claim so frequently made that there are many possibilities for industrial development along agricultural lines in this province.

STEEL CASTINGS

Manganese, Chrome, and Nickel Steel Castings from ¼ of a pound to 30,000 pounds

Steel and Semi-Steel Machine Moulded Gears any size up to 18 feet in diameter without the use of patterns

Hull Iron & Steel Foundries, Ltd.

Head Office and Works - - HULL, P.Q.

The Hamilton Bridge Works Co. Limited

HAMILTON, - ONTARIO

ENGINEERS, MANUFACTURERS and CONTRACTORS

Steel Railway Bridges
Steel Highway Bridges
Steel Buildings
Steel for Ships
Steel Turntables
Steel Trusses and Columns



Capacity 36,000 tons

5,000 tons of Standard Shapes of Structural Material in our yards for immediate shipment.

Enquiries solicited

The above is a building recently erected for the Steel Company of Canada at Hamilton, Ontario

Good Things from Other Magazines

The Permanency of Present High-Price Levels

The writer of the following illuminating article, who is professor of political economy at Yale University, does not believe that there will be an immediate recession to pre-war prices, as the world is now on a high-price level. The clever business man, he declares, is not he who waits, but the one who carefully studies the new economic, financial and industrial conditions, and acts accordingly

By PROF. IRVING FISHER

(From the "Manufacturers' News")

AT the present time there is a marked halt in production. Industry is slowing down. Unemployment of labor increases. Some industrial concerns are failing to earn profits, and others are suffering the dissipation of their accrued profits, because even by shutting their plants down, they cannot save certain of their expenses or any of their fixed charges. The government's revenues, dependent as they are upon the national income, may fall short at the very time we need them most. In brief, we are threatened with a widespread business depression and from peculiar causes, for the unsound conditions usually preceding a widespread business depression are absent.

Expect Prices to Drop

The main reason why business is not going ahead better is that most people expect prices to drop. The merchant is selling, but not buying. The manufacturer holds up purchase of his raw materials. People quote the disparity between present prices and those prevailing "before the war" and decide they will not buy much until present prices get down to "normal." This general conviction that prices are to drop is putting a brake upon the entire machinery of production and distribution. Readjustment waits because we keep on waiting for it. We have waited in vain for over three months. It is interesting to observe that many manufacturers think that prices must come down, including the price of labor, but they are ready to demonstrate to you that their own prices cannot come down, nor can they pay lower wages. Almost everything they buy somehow costs twice as much as before the war, and their labor is twice as dear. They cannot pay their labor less, if labor is to meet the increased cost of living. Now, as a matter of fact, when we investigate almost any individual one of the so-called "high prices" for industrial products, we are likely to find that individually it is not high, that is, it is not high relatively to the rest. Our quarrel is with the general level of prices.

Variations in the general level may be compared to the tides of the sea, while individual prices may be compared to waves. Individual prices may vary from this general level of prices for specific reasons, peculiar to individual industries, just as the height and depth of waves vary from a general level established by the tide. The causes controlling the general price level are as distinct from those controlling individual prices as the causes controlling the tides are distinct from those controlling individual waves.

All prices have risen, but some have risen more, some less, than the average, for particular reasons affecting each industry. In some cases an improved organization of both employer and employees has enabled them to take full advantage of the price advance. The war brought about an abnormal demand for certain products like copper and steel, and they advanced faster than the average. The abnormal demand having disappeared, these prices are being adjusted downward. Wheat is a case where demand increased and at the same time certain of the usual sources of supply—Russia, Australia and Argentine disappeared, with a resultant abnormal price increase. The closed sources of supply have opened again and wheat prices in the world market have dropped. In some cases, as in many of the industries making building materials, the war meant a great slackening in demand, an enforced curtailment in use by government order. In such instances, we are likely to see an upward swing of prices as the suppressed demand again makes itself felt. To-day we are witnessing throughout the country such price readjustments, up and down, but the general price level has shown little signs of falling.

The fundamental practical question confronting business men is whether the general level of prices is going to fall. In my opinion, it is not going to fall much, if at all. We are on a permanently higher price level and the sooner the business men of the country take this view and adjust themselves to it, the sooner will they save themselves and the nation from the misfortune which will come, if we persist in our present false hope.

A similar increase in prices all over the world occurred between 1896 and 1914 following the discovering of the rich gold fields of South Africa, Cripple Creek and Alaska, the invention of the cyanide process in mining, and the vast extension of the use of bank credit.

Startling Extension of Credits

Circulating credit, that is, bank deposits subject to check and bank notes, is a multiple of the banking reserve behind these deposits and notes, and the essence of this reserve of gold. Our present monetary system is an inverted pyramid, gold being the small base and bank notes and deposits being the large superstructure. The superstructure grows even faster than the base. The deposits are the important elements. They are transferred by check from one individual to another, that is, the circulation of checks is really the circulation of deposits.

Thus any increase in the country's gold supply has a multiplied effect. The possible extent of the effect is dependent upon (1) the amount of gold available, and (2) the gold reserve requirements determining the volume of credit that can be put into circulation based upon gold. Over a billion dollars in gold has come into this country from abroad since 1914, and a large amount has disappeared from domes-



Manufacturers, PREVENT Big Fires by "nipping them in the bud," with

"IMPERIAL" FIRE EXTINGUISHERS

(Every "IMPERIAL" bears the Underwriters' label)

If your factory burns, how will you fill orders during the long period of rebuilding? How will you hold your customers? How will you hold your employees? Your ***Insurance*** won't do all this!

Every Insurance Company makes an allowance on the premium rate for the installation of APPROVED Extinguishers.

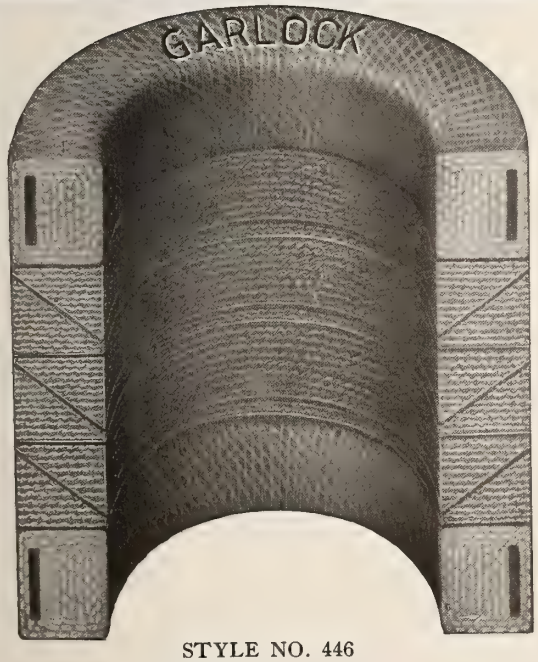
Your Insurance Agent can tell the exact amount an "IMPERIAL" will save you.

"Put the Fire out before it Puts you out"

Send for Booklet and Prices

The Booth-Coulter Copper & Brass Co. Limited

115 Sumach Street • TORONTO, Ont.



STYLE NO. 446

FOR PACKING

High Pressure Steam Rods
Use Garlock Style Number 200

Medium Pressure Steam Rods
Use Garlock Style Number 446

Low Pressure Steam Rods
Use Garlock Style Number 333

High Pressure Steam Joints
Use Garlock Style Number 950

Ordinary Steam Joints
Use Garlock Style Number 22

Worn or Scored Piston Rods
Use Garlock Style Number 336

Cold Water Piston Rods
Use Garlock Style Number 99

Inside Packed Plungers
Use Garlock Style Number 260

These packings are guaranteed to give satisfactory service under the above conditions.
Write for catalog.

The GARLOCK PACKING COMPANY, Hamilton, Ontario

Branches:

Calgary, Alta., 211 8th Avenue West
Montreal, Que., 409 Shaughnessy Bldg.
Winnipeg, Man., Galt Bldg.
Toronto, Ont., 404 Continental Life Bldg.

Jas. W. Foley & Co.
POTTERS
ST. JOHN - - N.B.



Stoneware, Rockingham Ware, Flower Pots, Stove Linings, Etc., Etc.



Maples Limited
Manufacturers and Refiners
TORONTO CANADA

tic circulation. The gold from both these sources has found its way into the United States treasury and into bank reserves. On June 30th, 1918, the portion of the gold reserve of the federal reserve banking system which supported national bank deposits and federal reserve notes was more than three times as large as the gold reserves under the old national banking system on June 30th, 1914—$1,786,000,000, compared to $592,000,000. During the same period, credit instruments (demand deposits and notes) increased about twofold—from $6,100,000,000 to $11,700,000,000. This increase of credit instruments is typical of the banking situation for the country as a whole, and largely explains the present higher level of prices. The increase of gold has been so great, however, that the base has grown faster than the superstructure—which is contrary to the normal tendency. The ratio of gold to credit has risen from 9.6 per cent. to 15.3 per cent. The reserve requirements of the present system are such that for 1918 there is an excess of gold above legal requirements of more than $700,000,000. The reserve required by law to support the $11,700,000,000 of credit instruments of 1918 is $1,070,000,000. The $700,000,000 of free gold could support an additional superstructure of 70 per cent. as large as the existing one, which indicates that for the banking of the country as a whole, a potential future expansion of 50 per cent. is a conservative estimate.

Erroneous Views of Inflation

Many people, referring to this inflation in the circulating medium, and assuming that it is temporary, are waiting for that inflation to subside. When we speak of inflation, we mean more circulating medium than is needed to transact the business of the country on a given price level. But what price level? Some people mean the price level of 1913-1914. Our currency is certainly inflated in terms of the prices of that period, just as the currency of 1914 was inflated with respect to the prices of 1896, but our currency is not inflated at the present time relative to the new level of prices in the world which the war has brought. The country's volume of money will have to be judged in terms of this new price level, not in terms of a price level that is past. To speak of the present "inflation" as temporary is to assume the very thing about which we are contending—to assume that the normal prices are those of 1914.

Let us examine the factors upon which any future price movements must depend.

1. *Gold Will Not Return to Circulation*:

No great effect in the direction of falling prices can be expected from any return of gold and other lawful money into daily circulation. Such a reversion would be contrary to monetary experience everywhere. When people have learned to leave their gold and silver in the banks and use paper money and checks instead, they find the additional convenience so great that they will never fully return to the old practice.

2. *No Great Outflow of Gold Through International Trade:*

It should be noted that many of the former reasons for a flow of gold from America abroad have disappeared. We used to owe Europe a huge balance of interest payments upon American securities she held. The situation is reversed to-day.

"Yes," but people say, "wait until trade is resumed between United States and Europe, then surely 'low priced European goods' will flow over here in such enormous volume that they will liquidate all annual obligations to us in goods." Ultimately, Europe must pay her obligations to us in goods, but it will take many years. Meanwhile, she

"Put it on Wheels"



Truck No. 820

When you buy a Machine for your Factory, the chief consideration is that it be strong enough to meet your maximum requirement.

This same point should be your chief consideration when buying Trucks.

To enable buyers to purchase Trucks intelligently, we state in our Catalog the load capacity of each Truck, ample allowance having been made for the abuse Trucks receive.

Catalog mailed at your request.

THE W. S. MAHAFFY CO.

Manufacturers of Factory and Warehouse Trucks

COR. GLADSTONE AND TRAFALGAR AVENUES TORONTO, CANADA

YOUR BUSINESS—
AND OURS

The return of the country to a peace basis and the opening of the markets has a direct bearing on your business and on ours.

You, a manufacturer, are faced with new problems—more efficient factory operation, new processes, material and by-product utilization, new products and new supplies.

We, an organization of practical industrial chemists, present the means of solving these problems.

A staff of technical men familiar with the practical and the commercial features of your problems—fully equipped laboratories and technical resources—will assist you in a solution of your difficulties. All information given by you is confidential.

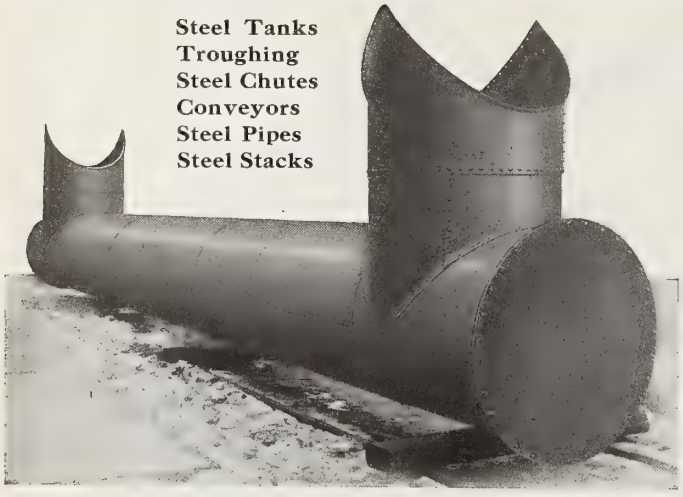
No obligation incurred by laying before us your problems. We will write you fully regarding any inquiry.

THE LARGEST AND BEST EQUIPPED COMMERCIAL LABORATORIES IN CANADA

MILTON HERSEY COMPANY LIMITED

INDUSTRIAL CHEMISTS, ENGINEERS AND INSPECTORS

MONTREAL WINNIPEG



Steel Plate Work

If it is a bit out of the usual, let us handle it.

We specialize in doing work that other shops don't care to tackle.

It lasts longer—if Waterous-built.

Waterous

BRANTFORD, ONTARIO, CANADA

STRUCTURAL STEEL

and

BRIDGE BUILDERS



We build and erect all kinds of Structural Steel, Bridges, Roof Trusses, Bank and Office Railings, Stair Work, Elevator Grills, Fire Escapes, etc.

Over 5,000 Tons in Stock of Beams, Column Sections, Angles, Tees, Plates, Bars, Checkered Floor Plates, etc.

McGregor & McIntyre, Limited

1139 SHAW ST. TORONTO, CAN.

needs our tools, machinery and raw materials for immediate reconstruction.

At the present time European goods are not "low priced" (however little the money wages of European labor will buy). Prices in Europe since the war began have risen more than they have in the United States. The price rise has been less the further from the seat of hostilities. It was least in Australia and New Zealand. It was next least in the United States, Canada and Japan. Then came neutral Europe, then our present allies; and finally, Germany and Russia. Gold tends usually to flow from high priced countries to low priced countries, so that until "inflated" European prices fall, gold is not likely to flow thither. Prices are no more likely to fall there than here and for the same reasons, which will be explained below.

3. *Reduction of Outstanding Credit:*

The chief dependence of those who predict lower prices is on a reduction of the superstructure of credit resting upon our gold rather than on any reduction in the volume of this gold itself. They look for a contraction of bank credit, a reduction in the volume of deposits subject to check, which circulate throughout the country.

Effect of Loans on Credits and Prices

But the main cause for the present extension of bank credit is the Liberty Loan, and there is soon to be another. Subscribers for the new loan will not pay for their bonds in full any more than they did in the previous cases, but rather less. Many of them will deposit the bonds with the banks as security for loans to be repaid later. The effect on our circulating medium will be the same as if the government were to impose a levy of six billion dollars of credits upon the federal reserve banks and then order them to apportion these credits out among the banks of the country. This process will certainly lead to an expansion of credits. The former issues of Liberty Bonds are still carried by the banks to a considerable extent.

It may be contended that the bank credit expansion represented by the new Victory notes has already occurred in the form of treasury certificates, which are merely to be funded by the Victory notes. The Victory note issue thus represents only a shifting of the obligation to pay credits advanced to the government, a shifting from the shoulders of the banks to the shoulders of the Victory note buyer. The volume of outstanding bank credit remains the same. To a certain degree this contention is true. But a portion of the April victory note issue will go to pay future expenditures, not accrued expenditures. Then, as soon as the government needs additional money, it will issue new treasury certificates, resulting in new extension of bank credit. Moreover, there is little doubt that there will be at least one more government bond issue during the reconstruction period, and this will tend to further increase our present credit structure.

Foreign Borrowings Have Same Effect

The banks must lend credit and create deposits to meet the expenditures not only of our own government, but of foreign governments as well. The same thing results even if these governments are served directly by private investors here, instead of via the United States treasury. These investors pay for foreign government bonds as they do for our Liberty Bonds, on the installment plan, paying a small part down and borrowing the rest from the bank. This increased purchasing power will be mostly spent in this country for supplies to be sent abroad for rehabilitation. This continuance of vast loan issues, connected with war and reconstruction throughout the world, is a factor which will maintain the high price level temporarily, which means many months.

ALCOHOL



Plant of Canadian Industrial Alcohol Company Limited, Corbyville, Ont.

With a capacity of 450,000 (proof) gallons per month we are the largest producers of Alcohol in Canada.

Manufacturers of vinegar, perfumes, essences, pharmaceutical preparations, etc., are invited to write us for prices of Alcohol suitable for their particular line of business.

We make a special feature of contracting for the requirements of manufacturers for the year or season, thus providing not only a uniform cost but also a steady supply as needed.

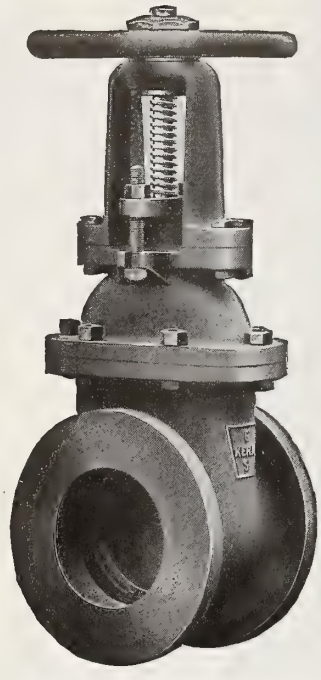
Those who are using Duty Paid Alcohol in their manufacturing processes would do well to consult us with a view to using it "In Bond," thus avoiding the use of two-year-old Alcohol. Under the rules and regulations of the Department of Inland Revenue, newly made Alcohol may be used "In Bond." This Alcohol is much cheaper than two-year-old.

METHYLATED SPIRITS or Denatured Alcohol is sold only by the Department of Inland Revenue, Ottawa, Ont., but any other kind of Alcohol may be secured from us.

CANADIAN INDUSTRIAL ALCOHOL COMPANY LIMITED

MONTREAL, QUE.

Kerr Iron Body Gate Valves



embody all that is modern in gate valve construction. Strong, compact and pleasing in appearance.

Every valve tested and guaranteed.

THE KERR ENGINE CO., Limited
Valve Manufacturers :: Walkerville, Ontario

BOILERS



STANDARD RETURN TUBULAR BOILER

We manufacture Horizontal Return Tubular, Vertical Tubular and Locomotive Type Boilers, also Smoke Stacks, Breechings, Steel Tanks, Penstock and Steel Plate Work of every description.

Canadian Builders' Keystone Traction Shovel
Model 4

Send us your inquiries

Engineering & Machine Works of Canada, Limited

ST. CATHARINES, ONTARIO

Eastern Sales Office: HALL MACHINERY CO., Sherbrooke, Que.

It is also worth keeping in mind that Liberty Bonds and other government securities held here do not wholly cease being a source of credit expansion when the individual subscribers have completed their payments on the bonds and really own them. For these new bonds are unrivalled security for further borrowing from the banks for commercial purposes.

The availability of the vast issues of war bonds as bases for future credit expansion, coupled with the fact that our banking system has still many unused reefs, sure to be taken out later when business wishes to spread more sail, is the chief reason why prices will keep up permanently, that is, for many years.

Between the period of temporary and the period of permanent effects, there may be a slight dip in the price level, say a year from now. If so, it is the more incumbent upon business to proceed now; for it cannot wait a year.

During the war the flotation of stocks and bonds of commercial concerns has been very greatly diminished. During the period upon which we are now entering, the issue for such securities will increase greatly.

Business Opposed to Credit Contraction

Against any considerable reduction in bank credit, and hence in the general level of prices, we shall find the whole business community in arms. Falling prices mean hard times for the individual and for the nation and every one resists the tendency. At the end of the Civil War, the Treasury started to reduce the quantity of greenbacks. A start had hardly been made, however, before the business depression of 1866 and 1867 caused Congress to forbid by law any further reduction. Should the Federal Reserve Bank attempt, by raising the discount rate or otherwise, to reduce the volume of bank credit outstanding, they will meet with the same sort of opposition. Moreover, the hostile attitude of labor toward the lowering of wages will deter legislators and bankers from any organized policy of contraction.

Business men should face the facts. To talk reverently of 1913-1914 prices is to speak a dead language to-day. The buyers of the country, since the armistice, have made an unexampled attack upon prices through their waiting attitude, and yet price recessions have been insignificant. The reason is that we are on a high price level, which will be found a stubborn reality. Business men are going to find out that the clever man is not the man who waits, but the one who finds out the new price facts, and acts accordingly.

New Canadian Patents

A List of Some of the Recent Inventions for which Patents have been Issued

The following is a list of Canadian patents recently issued through the agency of Messrs. Ridout & Maybee, Kent Bldg., Toronto, from whom further particulars may be obtained:

James C. Cockburn, animal trap; John Fraser, churn; Thomas D. Kelly, planes for aeronautical machines; William P. Perry, apparatus for distilling; Paul Wilde, plants for warming and moistening the soil surface; John West and Wm. Wild, retorts and methods of working the same; Sigmund Willner, accumulator electrode-grids; Toronto Type Foundry Co., Limited, universal tool grinding machine; Nels A. Anderson, buckling devices; J. Stone & Co., Limited, valves for fluid pressure sytsems for operating bulkhead and like floors; Edward P. Leach, concrete mixer.

Dominion Copper Products Co., Limited

Manufacturers of

Seamless Brass
Bronze and
Copper Tubing

in all commercial sizes and gauges

Office and Works: LACHINE, QUE., CANADA
P.O. Address: MONTREAL, QUE. Cable Address: "DOMINION"



They will fit your present frames.

4,000 USERS OF
Chapman Type Ball Bearings

are saving money on power consumption, lubrication, labor and general factory upkeep.

The double row of extra large balls of the Chapman provides double capacity for service.

You can't help saving 15% to 40% on your power and 95% on lubrication with no upkeep cost whatever.

"Catalog 3B gives the reasons why

CHAPMAN DOUBLE BALL BEARING CO.

339-351 Sorauren Ave., TORONTO **408 Shaughnessy Bldg., Montreal**

TRANSMISSION BALL BEARING CO., Buffalo, N.Y.

W. C. Macdonald
Registered

ESTABLISHED OVER 60 YEARS

Trade Mark Registered

Tobacco Manufacturers

MONTREAL

FREE THIS HANDY OIL CAN

THIS famous coupon has brought lubrication convenience and satisfaction to many thousands of motorists. The can makes it easy to oil the hard-to-reach places. And it is a constant reminder of lubricants that will bring you greater satisfaction.

Sign and send it now. Then try these "Made in Canada" products.

CANADIAN OIL COMPANIES Limited
1296 Excelsior Life Bldg.
Toronto, Ont.



Canadian Oil Companies, Limited,
1296 Excelsior Life Building,
Toronto, Ont.

I own .....
(Give name above)
automobile and enclose two 3-cent stamps. Send me handy oil can FREE. Also please give nearest shipping point in this Province and quote prices on En-ar-co Products.
I will be in the market about.....
(Give date above)

Name .....

Address .....

Province .....

RESOURCES OF LATIN AMERICA

Forests of South America probably contain the largest and most valuable body of timber in the world. Every care should be taken for the future to protect these regions from possible destruction. If properly protected and utilized, South America may become the centre of the world's timber prosperity in the immediate future.

By PERCY F. MARTIN, F.R.G.S.
(From British & Latin American Trade Gazette.)

The twenty sovereign states of what is known geographically as Latin America are possessed of natural resources—as distinct from manufactured products—of which the world has but an imperfect knowledge, and makes but a restricted use. A country, or a series of countries, with a superficial area of something over 8,000,000 square miles, must, necessarily, contain within its borders a vast number of natural resources of different kinds and various degrees of usefulness to man; and even to-day the inhabitants of those regions are ignorant of the riches a bountiful Providence has bestowed upon them or how to put them—where known—to the most profitable advantage. Whereas to several of the countries many of these gifts are common—such as timber, minerals and precious stones—others are possessed of resources peculiar to themselves; for instance, the nitrate of Chile, the gayule of Mexico, and the quebracho of Argentina and Paraguay.

The war has taught us many useful and profitable lessons, which is capable of employment by means of new devices and discoveries may be obtained. From among the resources of the severe competition, due to the needs of the different nations, will call for the uttermost adaptation of these resources, and the eyes of the universe will turn towards the immense and diversified regions of South and Central America, where practically everything that man can need for his own use, and which is capable of employment by means of new devices and discoveries may be obtained. From among the resources of the Latin Americas it will be possible to meet the growing demands of the entire world, and then to have touched but the bare fringe of their productiveness.

Composition of Forests

Let us consider the case of the forest-lands, a conspicuous feature in the majority of the Latin American states. If we except two small regions, the South American forests are composed of broad-leafed hardwoods. There is a close resemblance between these and the hardwoods of North America. Some are of between 10,000 and 20,000 feet board measure to the acre, and the common belief that tropical forests contain only very hard woods must be disabused, since recent investigations show these forests to be composed of soft or medium hardwoods which are as suitable for general construction as the pines and various conifers and hardwoods of North American and European forests.

The timber lands of Latin America—in which comprehensive term are included those of Central America and Mexico—can be roughly divided into four categories, more or less distinct, the species composing each varying from region to region, but the general effect of each type from Colombia to Argentina being much the same. Putting aside the employment of technical or botanic phraseology, these four principal types of trees may be described as dry forests, temperate forests, swamp forests, and tropical rain forests. There are, of course, other and minor types, quite distinct in themselves, upon which further comment is unnecessary, since the object of this article is merely to show the character of the

The Initial Expense is the Only Expense When You Install Eddy's Indurated Fibreware Fire Pails

There's no further upkeep. They won't cost you a cent to keep them in repair, simply because they can't get out of order.



They're moulded, and pressed and baked until they are hard as stone, yet they're not brittle and will not crack nor split.

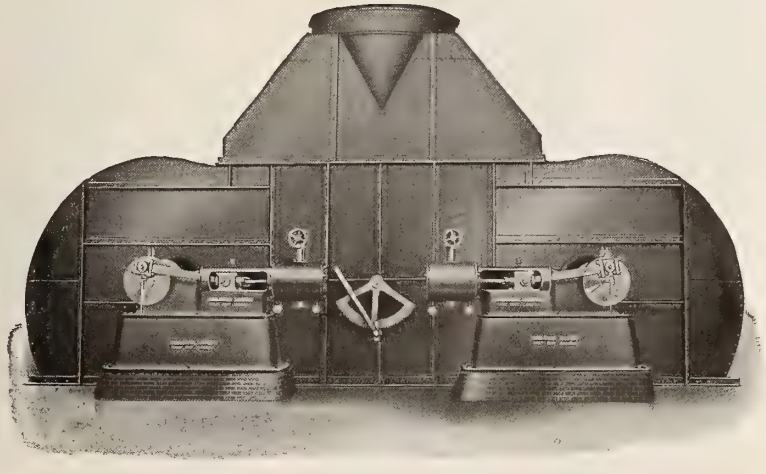
Eddy's Indurated Fibreware Fire Pails

are far superior to the old style tin or wooden types. Chemicals and acids won't corrode them. Water won't rust them, and their rounded bottoms assure them being where they should be in case of fire. They won't stand unless in their rack and therefore cannot be used for any other purpose than that for which they are intended.

Made in Hull—Used all Over

THE E. B. EDDY COMPANY, LIMITED
HULL . . . . . CANADA

SHELDON EQUIPMENT FOR YOUR POWER PLANT



Let us tell you how to cut your coal bill.
Our systems are installed from Coast to Coast.
We can make prompt deliveries on :---

Fans	Steam and Oil
Blowers	Separators
Exhausters	Exhaust Heads
Heaters	Back Pressure
Engines	Valves
Air Washers	Pressure
Steam Traps	Regulators
Etc.	Etc.

We supply apparatus for plants of all sizes, from the smallest to the largest.

SHELDONS LIMITED
GALT, ONTARIO, CANADA

SALES OFFICES.
Sheldons Limited, - - 505 Kent Bldg., Toronto
Ross & Greig, - - 412 St. James St., Montreal
Walkers Limited, - - - 259 Stanley St., Winnipeg
Robt. Hamilton & Co., Bank of Ottawa Bldg., Vancouver
Gorman, Clancey & Grindley, Ltd., Calgary & Edmonton

MALLEABLE IRON
CASTINGS

HIGH TENSILE STRENGTH

GALT MALLEABLE IRON CO.
LIMITED
GALT ONTARIO

ESTABLISHED 1850

DID YOU EVER NOTICE

that jarring, grinding noise in your machine shop caused by the metal gears?

Wouldn't you like to stop that noise? You can do it by using

NEW PROCESS GEARS
RAWHIDE PINIONS

They last indefinitely too

Ask us about it?

R. GARDNER & SON, LIMITED
Nazareth, Brennan and Dalhousie Streets
MONTREAL

South American forests so far as they lend themselves to commercial exploitation.

The first or dry type of timber is to be found in the temperate or sub-tropical regions, and is met with at both high and low levels. Immense areas exist where the rainfall is either deficient or unevenly distributed throughout the year, thus occasioning long periods of drought. Such forest areas are usually covered with some form of growth which, at its best, is a dense mass of comparatively few species. The trees are short-boled, round-headed, often armed with spikes or thorns or short spur-like branches, and with harsh or bristle-pointed leaves. The trees do not usually exceed 50 feet in height, and in many regions the average is little over 25 feet. The commercial stem varies from 10 to 20 feet, with diameters of 12 to 24 inches common. These forests grade into chaparral on one side, and into tropical rain-forests on the other. Perhaps the best known representatives of this type are the *quebracho-algarroba* forests of Northern Argentina and Paraguay. These occupy the great semi-arid plain lying between the foot-hills of the Andes and the Paraná and Paraguay rivers, known geographically as the Gran Chaco. Other representatives of this type are the *Cotinga* forests of Brazil, and the coast forests of Colombia and Venezuela between Cartagéna and the Island of Trinidad.

Antarctic Beech and Conifers

The second, or temperate, type is met with along the slopes of the Andes, where elevation and moisture combine with suitable soils to make the growth of a temperate forest possible. This type is best developed in Patagonia, and reaches practically to sea-level in Tierra del Fuégo. Here, in the south, the trees are rather stunted and deformed by the violent winds that blow for the greater part of the year, but higher up in the more peaceful solitudes of the mountains to the north, and along the shores of the Patagonian Lakes, timber reaches a splendid development, and heavy stands are met with. These forests are of Antarctic beech and a few conifers, and it is estimated that three species of the beech would probably furnish 90 per cent. of the cut. Average stands are between 10,000 and 20,000 feet per acre, exclusive of defects.

Unfortunately, many of the forests are overmature and so defective as to be of little commercial value. The trees reach heights of 100 and 125 ft., and a diameter of between 2 ft. and 5 ft. No reliable computation has ever been made of the timber in this part of South America, and the extension along the Andes from Chile to Colombia can only be roughly estimated. The great populations that have for some thousands of years occupied this region, drew on the forests for fuel and construction-timber, and, no new growths having been promoted, only second growth, or scattered patches, remain. It has been found that these Highland people even worked down to the edges of the rain forests of the great Amazonian plain.

The third, or swamp, category forest can, again be subdivided into two classes: (*a*) The tropical forests occupying the salt-water swamps at the mouths of the great rivers; and (*b*) the forests of the fresh-water swamp and bottom lands. The tidal forests are typical mangrove areas, such as are to be found in other parts of the world, rather restricted in area and practically destroyed. The fresh-water swamps occupy great areas, and may undoubtedly, one day, become of some commercial importance. Among the best-known representatives of this type may be included the lowland forests that fringe the Amazon River in Brazil, the Orinoco in Venezuela, the Paraná in Argentina, and the Magdaléna in Colombia. These forests have similar characteristics, al-

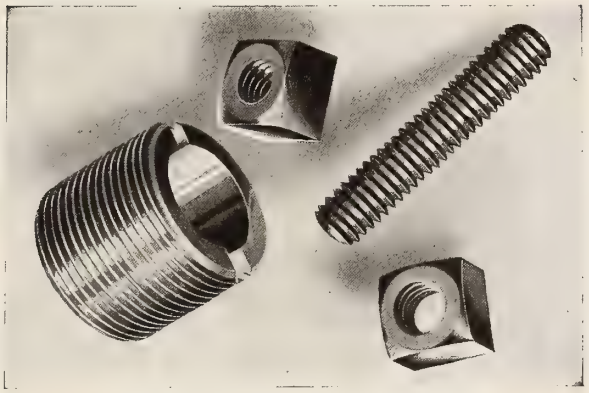


SHIP CASTINGS

A Specialty

CANADIAN STEEL FOUNDRIES, LIMITED
Transportation Building. Montreal

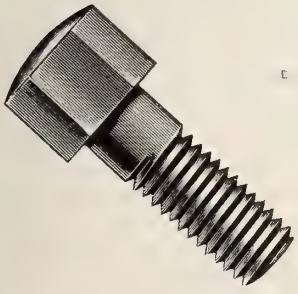


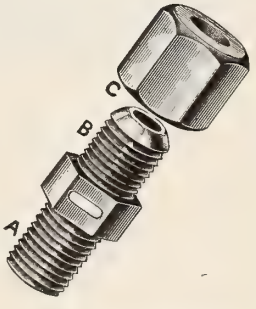




Satisfaction Guaranteed

Prompt Deliveries





WE MANUFACTURE

Brass
Automatic Screw Machine Products

Capacity of Machines 1/8-inch to 2 inches
We solicit your inquiries
Mail us samples or blue prints

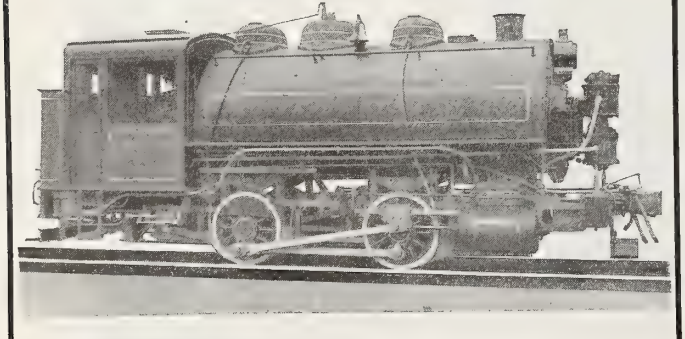




Tallman Brass & Metal Limited
HAMILTON, ONT.



PUT YOUR PROBLEM UP TO US



We are specialists in building locomotives. We build all types and sizes, also all kinds of repair parts for locomotives and tenders.

Our experience puts us in a position to give you expert advice as to what particular type and size of locomotive is best suited to your needs.

Put your locomotive problem up to us.

MONTREAL LOCOMOTIVE WORKS, LIMITED
DOMINION EXPRESS BUILDING MONTREAL, CANADA

though they may differ in regard to the species of the trees found therein from north to south.

The forests of the swamp area are very irregular in age, often very open, and, maturing with extreme rapidity, only fast-growing species obtain a footing over much of the area. For the most part, the species in this type are soft wooded, similar to cotton-wood, bass-wood and yellow poplar, and many are quite colorless. The trunks reach to a height of over 100 ft. in the best soil, and from 60 to 70 ft. in the average, the ordinary diameter being between 2 and 3 ft. Certain of these species probably reached this height in a period of from 10 to 15 years, and their commercial diameters in much the same time. The dominant stand from any given region is generally of very few species. In many cases four or five varieties of a tree will furnish 75 per cent. or more of the commercial timber, and the yield will be between 8,000 and 10,000 ft. per acre.

Of all the types of South American forests the tropical rain forest is, perhaps, the most important and the least known. Here in these regions, almost untouched by the foot of man, are to be found mahogany, rosewood, Spanish cedar and numerous other classes of wood adaptable to commercial purposes. It is estimated that there is enough timber to keep thousands of lumber men at work without pause for hundreds of years, not even the Indians having, as yet, penetrated more than a mile or two into the jungle-like interior from the waterways.

This forest type in South America probably contains the largest and most valuable body of timber in the world, and, had shipping facilities permitted, vast stocks of some of the finest construction timber—and timber for pit props in particular—could have been brought over to Europe during the past four years, during which the scarcity of such material had been so keenly felt. Every care ought to be taken for the future that these regions be protected from possible destruction, and some kind of international agreement arrived at between European, North American and South American Governments for the institution of a strict forest administration. If these areas be destroyed, as the forests of Argentina, Paraguay and Southern Brazil are being wasted day by day, it would mean economic ruin, probably also absolute physical damage to land, climate, property, and even life on a great part of the southern continent. If, on the other hand, they are protected and properly utilized South America may become the centre of the world's timber prosperity in the immediate future.

The tropical rain forests are composed of timber similar to that now generally in use. The woods are in the main soft or of medium hardness, and could replace yellow pine for construction, oak for finish and furniture, hickory for wheels and handles, and ash for agricultural implements. It has been said by a great authority upon timber, that from the infinite variety of these South American woods it is possible to find one for each industry more completely suited to its needs than those used to-day.

In working the forests, almost everything would seem to be in favor of the logger, conditions being almost ideal. Heavy stands are found over great areas absolutely level, and between ten and twenty thousand feet can be cut to the acre. Commercial diameters run between 2 ft. and 3 ft., and the clear lengths to 50 ft. or more. The total height of an average tree is well over 100 ft. In regard to transportation, navigable rivers and streams reach nearly every part of the forest, and short hauls to floatable water are the rule. While much of the timber will float, it would probably be found more practicable and profitable to construct complete wood-working plants close to the forests, dispose of low-grade products near at hand, and ship only the more or less finished products to the world's markets.

Every Member of Our Organization is an Active Worker, co-operating to produce Results

Results mean Satisfied Owners

JOHN V. GRAY CONSTRUCTION CO., LTD.
GENERAL CONTRACTORS
625 Confederation Life Building - - - - TORONTO, ONT.

ARE YOUR STEAM PIPES INSULATED?
IF NOT YOU ARE BURNING MONEY

A GOOD COVERING pays for itself in one Season, and is a revenue producer indefinitely. The Best is the Cheapest **WE HAVE IT**

EUREKA MINERAL WOOL & ASBESTOS COMPANY
118 ADELAIDE STREET WEST, TORONTO, ONTARIO

JULIUS COHEN & JOSEPHY

Foreign Domestic **WOOL** *Noils, Wastes and Shoddy*

Also operating THE YORKSHIRE WOOL STOCK MILLS, TORONTO
Manufacturers of Pulled Shoddies

H. V. ANDREWS Canadian Representative **13 Church St., Toronto**

ELECTRIC STEEL CASTINGS

WE CAN SUPPLY

Carbon Manganese, Alloy, Steel Castings Forging Ingots, Etc.

Write for prices and particulars

The Electric Steel and Metals Company, Limited
WELLAND, ONTARIO

WHITLEY INDUSTRIAL COUNCILS

The scheme, explained by its originator in the following article, recommends the formation of a triple joint organization—in the workshops, the districts and nationally. The functions of the various committees are described in some detail and an illuminating preface to the constitution and rules of the Industrial Council for the Building Industry is quoted.

By Rt. Hon. J. H. Whitley, M.P.
(From the "London Daily Mail.")

The National Joint Industrial Councils, over whose inception I had the honor to preside, have now been established in twenty-five trades. Interim Industrial Reconstruction Committees, which fulfill the same function industries whose progress towards Joint Standing Industrial Councils has been through various reasons delayed, have been set up in twenty-five other industries.

The Municipal Corporations Association have agreed to apply the scheme not only to trading departments such as gas and tramways but also to their non-trading administrative departments. Already some three and a half million workers are organized under the scheme. Its extention to other industries is proceeding rapidly. When all have become organized, we may hope to form a real Industrial Council which will permanently fulfil the functions now being temporarily attempted by the Industrial Peace Conference summoned by the Premier.

Already the scheme is producing excellent results, not only through the National Councils but also through the District Councils and Works Committees. They are giving a new status to trade unions and to the workers. They are stimulating the workers' pride and interest in their calling. They are providing scope for the young men with ideas and ideals, the young men who are causing what is called "industrial unrest." Unrest is a sign of health. Unrest is an essential condition of progress, if only it is frankly given a constructive outlet. Unrest convoked the committee which has come to be associated with my name and inspired its effort to evolve a new and better industrial order.

The committee were asked to advise the Government on two points:

1.—To make and consider suggestions for securing a permanent improvement in the relations between employers and workmen.

2.—To recommend means for securing that industrial conditions affecting the relations between employers and workmen shall be systematically reviewed by those concerned, with a view to improving conditions in the future.

Getting the Workers' Interest

The committee unanimously decided that the best way to secure the desired improvement in relations between employers and workpeople was to establish the machinery for systematic review of industrial conditions "by those concerned."

The scheme recommended by the committee is not rigid; each trade is asked to adapt the general principles to its own needs. Joint Standing Industrial Councils are recommended to bring employers and workpeople together in regular meetings for discussion of matters of common interest. These meetings, we thought, would "produce an atmosphere in which disputes when they arose could be settled by an appeal to reason." They would tend, we believed, to reduce to a minimum the suspicion which the Prime Minister rightly described the other day as the chief cause of misunderstanding and antagonism.

The problems with which the Industrial Councils are invited to grapple with are the regularization of employment, industrial training, utilization of inventions, industrial research, the improvement of design and quality, and legislation affecting workshop conditions.

These matters in the past have been left in the main to the employers, and we felt that the knowledge and experience of the people actually engaged in industry constituted an asset of immense value and practical usefulness which ought no longer to be wasted. Furthermore, we thought that the workpeople were rightly entitled to some share of control over the conditions of their work and that such share of control must inevitably induce a wider interest in their work, a greater sense of responsibility, and a more active co-operation between managers and manual workers in the promotion of industry.

The scheme accordingly recommended is to form a triple joint organization—in the workshops, the districts, and nationally. The function of the works committees is to issue and revise works rules, arrange the distribution of working hours, regulate piece prices, settle methods of wage payments, adjust shop grievances, and deal with such other matters as holidays, physical welfare, questions of discipline, terms of engagement, training of apprentices, technical library, suggestions for improvements in methods, investigation of causes tending to reduce efficiency, collections for clubs and charities, entertainment and sport. The District Councils are to consider matters of interest to their district and to take executive action with regard to them, to co-ordinate local workshop practice, and to make recommendations to the National Joint Industrial Council on any matters which they are unable to decide.

Eliminating Conflict

As to the purpose of the National Councils and the scheme as a whole, I cannot define them better than by quoting from the admirable preface to the constitution and rules of the Industrial Council for the Building Industry.

"By general consent the old system has proved itself unworthy, and the reasons for its failure are not far to seek. From the days of the industrial revolution the relations between employers and employed have been based upon antagonism, coercion, and resistance.

"Under such a system many a forward move on the part of Labor towards improved conditions is opposed almost as a matter of duty by the employers' associations, and, conversely, many improvements in the direction of increased production and efficiency are countered by the restrictive regulations of the trade unions; both sides acting, as they believe, in the interests of their members.

"The two sides rarely meet except to make demands of one another or to compromise conflicting claims, and negotiations are inevitably carried on as between two hostile bodies. In this way great powers of leadership and willing service are diverted from constructive work into the sterile fields of largely useless controversy.

"Industrial peace must come, not as a result of the balance of power, with a supreme court of appeal in the background; it must arise as the inevitable by-product of mutual confidence, real justice, constructive good will. Industry needs no truce, no compulsory arbitration, no provision for postponement of disputes.

"What it needs is confidence and a courageous forward movement, supported by the constructive genius of both sides in common council. No one engaged in constructive work can fail to respond to the tremendous call of the big job, and the task to be faced to-day is the greatest problem in social engineering that the world has ever seen.

"It is believed that the common interests of industry will be found to be wider and more fundamental than those which are still, admittedly, opposed; and it is upon the broad basis of these common interests that the fabric of the new industrial order may be confidently raised."

THE NICHOLS CHEMICAL COMPANY, LIMITED

MANUFACTURING CHEMISTS

HEAD OFFICE: 222 ST. JAMES STREET, MONTREAL

Branch Office—120 Mill Street, Toronto

WORKS: Capelton, Que., Sulphide, Ont., Barnet, B.C. WAREHOUSES: Montreal, Toronto

Sulphuric Acid	Sulphate Soda	Glauber's Salt	Bleaching Powder
Muriatic Acid	Sulphide Soda	Blue Vitriol	Tri-Sodium Phosphate
Nitric Acid	Hypo-Sulphite Soda	Sulphate Alumina	Ammonia
Hydrofluoric Acid	Bi-Sulphite Soda	Papermaker's Alum	Salt Cake
Mixed Acid	Phosphate Soda	Caustic Soda	Tin Crystals

Agents for Baker & Adamson's Chemically Pure Acids and Chemicals

AGENTS FOR CANADIAN SALT CO.—"WINDSOR" BRAND CAUSTIC SODA & BLEACHING POWDER

Northern Aluminum Company
Limited

Sales Office: 1305 Bank of Hamilton Bldg., Toronto

Works:
Shawinigan Falls, P.Q. Toronto, Ontario

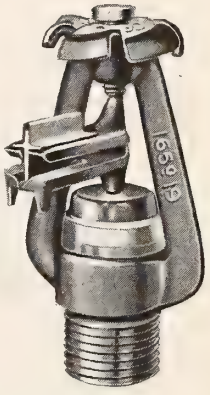
ALUMINUM

Electrical Conductors
Sheet Ingot
Castings Rod
Tubing Special Shapes
Fabricated Articles

Send inquiries to
1305 BANK OF HAMILTON BUILDING
TORONTO

Puts Out FIRE Quickly

Here's a watchman on guard day and night. Never sleeps, never gets sick or takes a holiday. Costs but little to install and



SAVES MONEY

by saving fire insurance premiums, and by saving serious business losses.

Manufacturers' AUTOMATIC SPRINKLERS

Estimates furnished on request

The Bennett & Wright Co., Ltd.
72 Queen St. East, Toronto

STEEL TANKS

THE
TORONTO IRON WORKS
LIMITED

HEAD OFFICE: ROYAL BANK BLDG. TORONTO WORKS: CHERRY STREET

Oil Storage, Gasoline Tanks, Air Receivers, Pneumatic Water Supply Tanks, Smoke Stacks, Boiler Breeching, Riveted Steel Pipe, Bins and Hoppers. Heavy and light steel plate construction erected anywhere.

Made in Canada



From British Stock

"GENUINE OAK"

LEATHER BELTING

"D.K."

BALATA BELTING

Guaranteed to Give Satisfaction

D. K. McLAREN LIMITED

TORONTO MONTREAL ST. JOHN, N.B.
849 Beatty Street, VANCOUVER

LEATHER BELTING

Made in Canada

J. L. Goodhue & Co., Limited
DANVILLE, QUEBEC

Manufacturers of
SUPERIOR QUALITY LEATHER BELTING AND LACE LEATHER

QUALITY
Not Price Our Aim

Canadian Manufacturers SHOULD USE Canadian Belting

Winnipeg Agents:
BISSETT & WEBB, Limited
136 Lombard St.
Winnipeg, Man.

Vancouver Agents:
FLECK BROS., Limited
54 Cordova Street East
Vancouver, B.C.

Montreal Agents
STANDARD MACHINERY & SUPPLIES, Ltd.
260 ST. JAMES ST., MONTREAL

THE WAR FOUNDLINGS OF INDUSTRY

Now that peace is in sight and trade competition promises to be restored, the question arises as to what shall be done with the newly-established industries which were brought into being to provide essential commodities, the supply of which from enemy countries was cut off by the war. Reasons why they should be maintained.

By WILLARD M. KIPLINGER.
(From "The Nation's Business.")

But of returning peace conditions has grown the question, What shall we do for our essential industries? Most are strong and healthy, and need no special Governmental consideration. Others are war babies, born of urgent necessity in times of industrial stress. Some of these must either die or be nurtured, now that old conditions of trade competition are soon to be resumed. In days of war, when the nation's interests were more homogeneous, when industries were compelled to depend more fully on the country's resources without aid from other lands, efforts were made to develop and cultivate what have since become known as "key" or "pivotal" industries. Dyes, optical glass, knitting machine needles, steel alloys, and certain drugs may be mentioned as typical examples. Each now is confronted with the vital question of whether the nurturing is to be continued, and inasmuch as tremendously big industries depend on these small enterprises the question is equally vital for the nation.

Of course, iron and steel manufacture, coal mining, textile and machinery production, railroad transportation and agriculture are examples of the nation's truly essential industries. Our social organism simply would not live without them. But neither would they live without the unobtrusive, but no less essential pivotal industries.

Many of these pivotal industries are not war infants, and many industries developed during and because of the war certainly can not be considered worthy of Governmental protection. So it is no simple task to separate the war babies, which should be kept in economic incubators, from those which will thrive in the open air of free competition. It is a delicate job to determine the enterprises not truly important to our big industrial family and which consequently might decline without serious effects. British economic experts went to work on the question more than a year ago, in their Committee on Commercial and Industrial Policy After the War, and recently reported:

"There are certain special commodities which, while the branches of industry engaged therein are not of such magnitude, are essential to national safety as being absolutely indispensible to important British industries, and were supplied before the war entirely or mainly from present enemy sources or from sources under present enemy control."

Under this definition, the British committee decided its national key industries, requiring special treatment, included those producing synthetic dyes, zinc, tungsten, magnetos, optical and chemical glass, hosiery needles, thorium nitrate for manufacture of incandescent gas mantles, limit and screw gauges and certain drugs.

But key industries for Great Britain are not necessarily key industries for the United States. No Governmental or other authorized agency has attempted to say what are the key or pivotal industries needing special treatment here. But most students of current economic conditions agree that in this class fall the manufacture of dyes, optical and chemical glass, needles for knitting machines, and a number of medicinal materials.

Dyes, for instance, neither nourish, shelter nor clothe a man. But without dyes, there would be poor raiment on our backs, drab interiors for our homes, monotonous sights



Cut of 60-inch "Extra" Double Belt
Made by The J. C. McLaren Belting Co., Limited.

WE ARE HEADQUARTERS FOR ALL KINDS OF

BELTING
LACE LEATHER
CARD CLOTHING
REEDS AND
GENERAL
MILL SUPPLIES

ABSOLUTE SATISFACTION GUARANTEED

The J. C. McLaren Belting Co., Limited

ESTABLISHED 1856

Head Office and Factory
MONTREAL, Que.

Branches:
50 COLBORNE ST., TORONTO
80 LOMBARD ST., WINNIPEG

633-661
EASTERN
AVENUE



ESTABLISHED 1852

The Largest Patent Leather Manufacturers in the British Empire

A. R. CLARKE & CO., LIMITED

MONTREAL TORONTO QUEBEC



With our greatly increased capacity we need your business.

A wheel for every purpose and satisfaction guaranteed.

Let us send our new Catalog and quote prices.

Dominion Abrasive Wheel Co., Ltd.

MIMICO. ONTARIO, CANADA.

DU PONT CANADIAN INDUSTRIES

Free Upon Application

We will send you a copy of a booklet telling of the uses and advantages of

TRUCK SPECIAL

DU PONT FABRIKOID
REG. U. S. PAT. OFF.

A tough durable, grease and waterproof upholstering material for commercial motor trucks and vehicles

Write for this booklet on Truck Special

Du Pont Fabrikoid Company

Sales Office:

63 BAY ST. TORONTO

DU PONT

along our streets. If we had to wear natural-color fabrics—and this means white clothes, probably dirty white—we would postpone buying clothes out of sheer dislike for the lack-lustre materials. Therefore a dollar's worth of dye sells ten thousand dollars' worth of suits, dresses, rugs, curtains, paint, wall paper, and printed books.

To judge the importance of the dye industry by the value of its output would be like measuring the value of American newspapers at two cents the copy, or the production of sermons at fifty cents the auditor, or the worth of a front tooth at the current market price for porcelain.

Consumption of optical glass forms an infinitesimal fraction of the whole output of glass in this country. Yet without glass of the peculiar qualities necessary for lenses, requiring unusual scientific skill and craftsmanship in manufacture, in what a predicament would our hundreds of thousands of bespectacled citizens find themselves! How could we have miscroscopes, telescopes, field glasses, gun sights, cameras and photographs, motion picture machines, periscopes, and other articles on which our national well-being and even safety depend?

Without knitting needles our looms would stop, and vast industrial districts would be crippled.

Without anesthetic drugs, and certain other medicinals universally used for treatment of prevalent diseases, sickness and death would increase, and the grip of pain, relaxed under modern science, would tighten.

Similarly, there is a multitude of other materials which many authorities believe are entitled to be classed as "key" and to be entitled to special consideration. Among these are surgical instruments, tungsten and manganese, potash, and a variety of acids and chemicals, particularly those wondèrful stuffs produced from coal tar and petroleum.

A vast number of styles and sizes of surgical instruments are used by the 140,000 medical men in the United States, and without them the science would be hampered. Sharp cutting steel tools could not be made without tungsten in steel, and steel for a thousand absolutely essential purposes would be valueless without manganese for alloy. It is not exaggeration or mere whimsical conception to say that a modern farm could not be operated except for tungsten and manganese. Without potash, the production of cotton and wheat and corn would decrease. Without thorium nitrate, produced meagrely in this country before the war, we could not have gas illumination, or at least the light would be poor and flickering.

This is only a partial list of essential commodities, considered in the most cursory way. But the production of each of these articles has common attributes. The output is small in volume, and the aggregate profit is likewise meagre. Before the war, the United States depended for them on other countries, mainly Germany, which specialized in a larger number of "key" industries, and came near to supplying the world. There was profit in them when produced on such a large scale and with a measure of Governmental encouragement.

Now that peace is in sight and trade competition promises to be restored, some American interests which hastily took up the production of these essential commodities when war interrupted the normal supplies, are considering dropping them and relying again on former enemy sources, or at least on foreign sources.

The last condition prompts most forcibly the question, What are we going to do about it?

A few serious students of economic problems advocate doing nothing about it. They believe in industrial and commercial inter-reliance among nations, the same as between South Carolina and Massachusetts.

Other equally serious students urge the development of a larger degree of economic self-reliance within each nation,

HEAVY CHEMICALS AND DYESTUFFS

The Grasselli Chemical Co.
LIMITED

Toronto, Ontario

Branch Office: MONTREAL, QUE. Works: HAMILTON, ONT.

H. & D. Corrugated and Solid Fibre Board



CONTAINERS will save on your transportation charges, save your floor space, cut down packing expenses, and give you positive protection against loss from damage and pilfering. Write for prices and samples.

The Hinde & Dauch Paper Co. of Canada, Limited, Toronto, Canada

D F & Co. Quality & Service

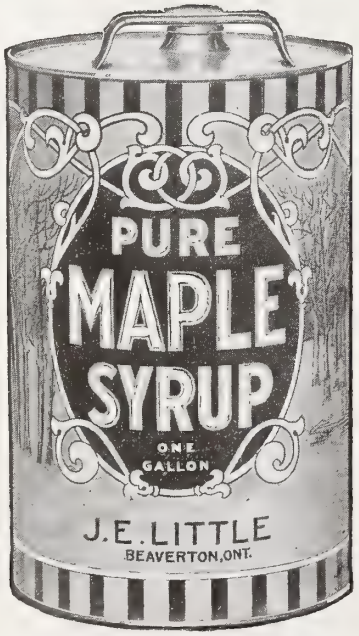
Forgings, Stampings or Pressed Steel Parts

AN attractive catalogue showing the facilities this Company has for producing **Forgings** and **Sheet Metal Parts**—particularly in large quantities, sent on request.

Dominion Forge & Stamping Co., Ltd.
WALKERVILLE, ONT.

SYRUP CANS

LITHOGRAPHED



AND PLAIN

Write for Circular and Price List

MACDONALD MFG. CO., Ltd.
145 Spadina Avenue
TORONTO - - CANADA

and specifically within the United States. Their arguments in the main run something like this: First, Competition between industries of each nation insures ultimately the maximum of progress; monopoly is dangerous, particularly when maintained within a single nation. Second, the waste transportation of materials from one country to another is minimized by a large degree of self-dependence. Third, in case of war or other disturbance of international trade routes, a nation may be forced suddenly to be industrially self-reliant, and "key" industries cannot grow up over night.

After pondering for months, the British Committee on Commercial and Industrial Policy, whose action is worth consideration, because Great Britain's industrial problems bear some relation to ours, declared for this policy:

"Some Governmental action should be taken to promote and safeguard the development in the United Kingdom of industries of a special or pivotal character, or those which, while essential for munitions purposes, are not of sufficient commercial importance to insure their development without such state assistance."

These industries, the Committee declared, "should be maintained at all hazards and at all expense. No ordinary economic rules apply to the situation of these minor but important industries. They must be kept alive by loans, or subsidy, by tariff, by Government contracts, or in the last event by Government manufacture."

Some of these methods of cultivation, of incubation, might be used in the United States. The Government might extend loans to help essential infant industries over the readjustment period, but it would require legislation to give this function to the War Finance Corporation, as it is now organized. The tariff is an instrument with whose use we are familiar, but even its friends admit it is clumsy and inflexible. We have no machinery for administering production bounties or subsidies in normal peace times. The Government has not the authority to impose import embargoes. Exemption from internal taxation, or special privilege in this regard, is generally considered an inexact and unscientific method of favoring certain interests. Government production in normal times is often fraught with political difficulties, and existing laws would make it hard for the Government to place large standing orders with certain manufacturers or interests to insure stability of market for some of the essential materials in future years.

Other difficulties of determining at this time a permanent and uniform line of state action for the future, grow out of the fact that industrial forces are never stable. Within a few weeks conditions may change in such a way as to eliminate one of the commodities mentioned in this discussion as pivotal, or to add others not now apparent in our search for key industries. New methods of production, new sources of supply, new lines of demand—these factors contribute to constant mutations in industrial conditions. Besides, who in this particular period of world readjustment can foresee the development of future international relations? Who knows how free will be the inter-play of industrial competition between nations? How can we say now what we should do with our important industrial infants in five years from now, or how we should do it?

All these conditions—the positive as well as the uncertain—seem to point to one conclusion: That there should be some permanent government agency to study the entire problem progressively, to formulate policies and to frame schemes for promotion of key industries with due regard to general and particular phases of public interest. To a limited degree it should have executive functions. It might use some of the instruments of action already mentioned.

DOMINION BRIDGE CO., LIMITED

MONTREAL, P.Q.

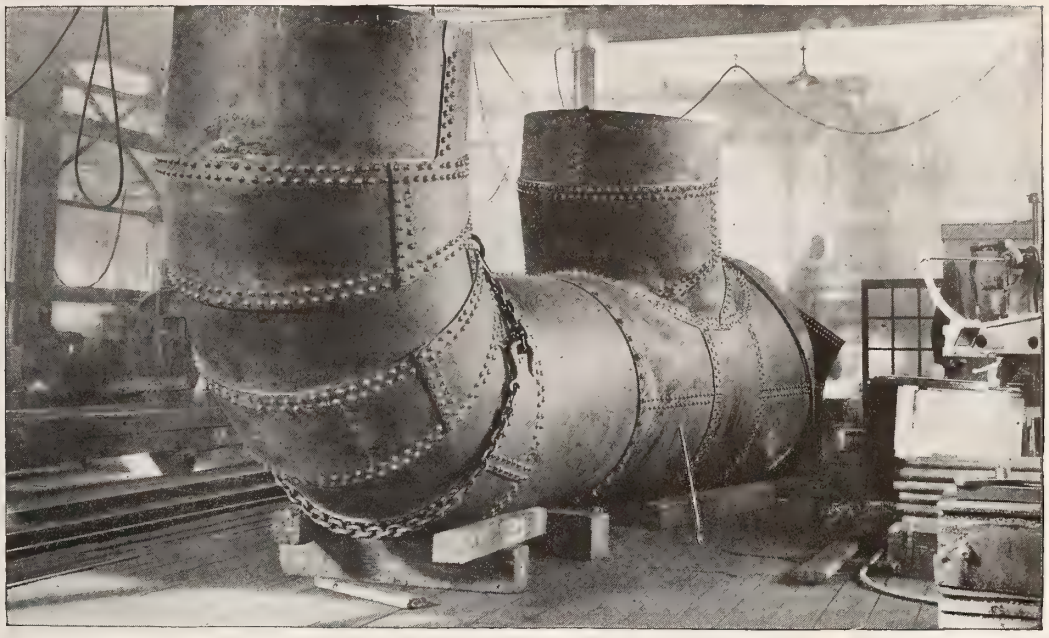
Engineers, Manufacturers and Erectors of

Paper Making Machinery

Steel Structures

Railway and Highway Bridges

Electric and Hand Power Travelling Cranes



Penstocks

Tank and Plate Work

Marine Engines and Boilers

Coal and Ore Handling Machinery

Lift Locks and Gates

Head Office and Works: LACHINE, P.Q., CANADA P.O. Address: MONTREAL, P.Q.
Cable Address: DOMINION Branch Office and Works: TORONTO, OTTAWA, WINNIPEG
Sales Offices: MONTREAL, TORONTO, OTTAWA, WINNIPEG, EDMONTON, REGINA, VANCOUVER
LARGE STOCK OF STRUCTURAL MATERIAL AT ALL PLANTS

QUALITY AND SERVICE

Acetic Acid Refined
Acetic Acid Crude
Acetic Anhydride
Acetate of Soda
Acetate of Lime

Acetone Pure
Acetone Alcohol
Acetone Oils
Charcoal
Columnian Spirits
Wood Alcohol

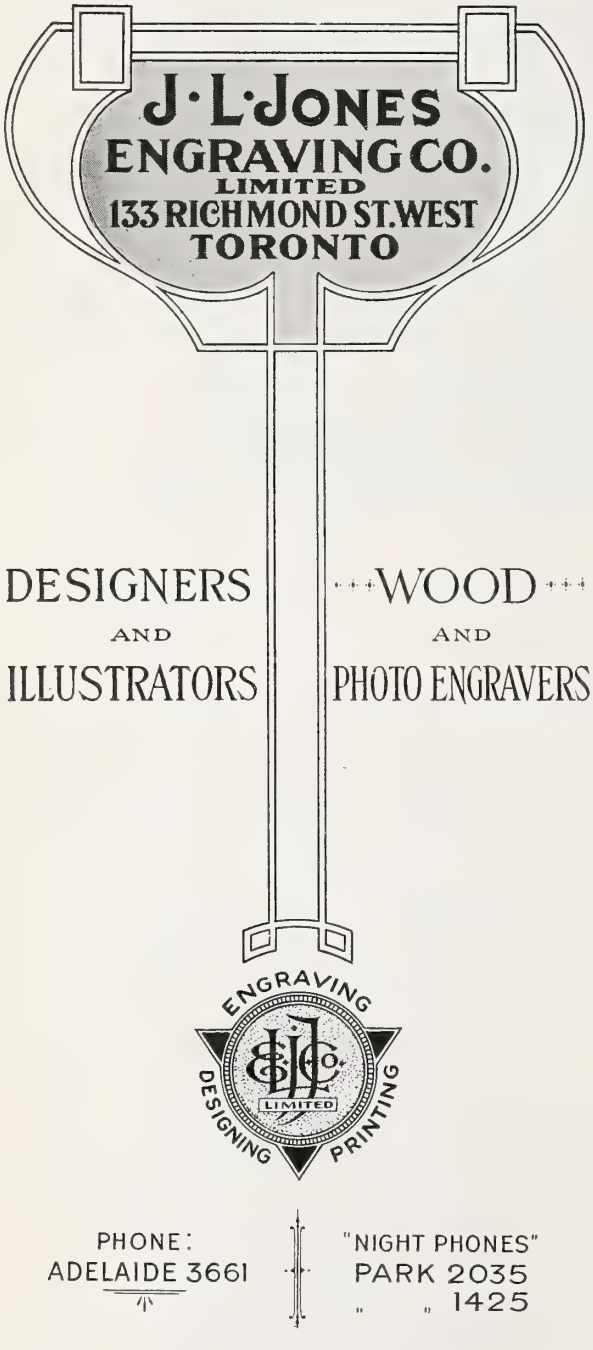
Creosote Oils
Formaldehyde
Methyl Acetate
Methyl Alcohol
Methyl Alcohol Pure

Made in Canada

Standard Chemical, Iron and Lumber Co.

OF CANADA, LIMITED

MONTREAL TORONTO WINNIPEG



PROTECTION INSURES PRODUCTION

The real menace of an inadequate tariff to our great corporations is not the danger of forcing them into bankruptcy, but the great loss to the general public from the reduction of their output and opportunities for employment. The work created by the demands of the home market should not be diverted to foreign countries.

By EDGAR JAY DWYER.

(From "The Protectionist.")

Every intelligent person who honestly desires to advance the genuine prosperity of the country, believes in the policy of protection and is proud of the undoubted effect of an adequate protective tariff law upon the progress of the nation and the welfare of all its people. To logical minds American protection is only another name for American production, which is the all important source of American industry and employment. The terms are synonymous, why is it so many fail to grasp this self-evident fact?

Every person who is a true friend of American industry and labor, should insist upon having the tariff question presented to the general public in the most convincing manner. Drive into the minds of the people the fact that an adequate tariff law insures home production, that home production is the chief source of their employment and the only basis of their high wages. Consequently such a tariff should be designated by its correct name, an "American productive tariff." Making this change would spike the most effective gun of the Democratic party. For a hundred years they have constantly reiterated the false statement that labor receives no benefit from "protection." They dare not state that labor gets no benefit from production; everybody knows there can be no production without employing labor.

Substituting "production" for "protection" will keep the all-important fact that American production provides work for the American people constantly in the limelight. Until some feasible substitute for wages to keep up the buying capacity of the American people is discovered, full American production will continue to demand an adequate tariff law to create and maintain full American work, wages and prosperity. Increased production is really the keystone to the arch of prosperity. A manufacturing industry benefits the country in the same ratio (more or less) as the volume of its production, the number of its employees, the stability of their work and the rate of their wages.

Work the Basis of Prosperity

It makes but little difference to the general public whether a great manufacturing company is forced into bankruptcy by a financial upheaval or whether its business is practically suspended by foreign competition. In either case it fails to provide the necessary work for the people. It is an indisputable fact that an abundant supply of work is the only basis of genuine prosperity in the United States. To keep the home fires burning, keep the spindles turning.

No Democrat will admit, and many Republicans seem to forget, that the real benefits conferred on a productive industry by an adequate tariff law are most plainly shown by the increased volume of their production, which is the only source of industrial employment. As a recent effect of an inadequate tariff, it will be recalled that in December, 1914, fifteen months after the present un-American law went into effect, the suspended employees of the United States Steel Corporation numbered over 150,000. Their jobs were cancelled, not only by direct foreign competition, but also by



Use Imperial Soldering Paste

It is free from acid
It is, therefore, non-corrosive
It contains no resin
It is economical to use
It flows freely into twisted wire
It will solder steel wires readily
It will solder copper wires readily
It saves time and solder

Put up in 2-oz., 4-oz., 8-oz. and 16-oz. Tins, also 25-lb. and 50-lb. Pails.

Write for Free Sample 2-oz. Tin.

The Canada Metal Company Limited, Toronto

TAR PRODUCTS
BENZOLS

Dominion Tar and Chemical Company

TAR DISTILLERIES:

SAULT STE. MARIE, ONT. SYDNEY, N.S.

Also Agents and Operators for TORONTO CHEMICAL CO.

Benzol Recovery Plant, Sault Ste. Marie, Ont.

Address all communications to Sales Office, Sault Ste. Marie, Ont.

Black Varnish
Creosote Oils
Wood Preservative Oils
Hard Coal-Tar Pitch

Naphthalene
Disinfectants
Crude Carbolic Acids
Phenols and Cresols

Benzols
Xylols
Solvent Naphthas
Rubber Solvents

Fat Extraction Solvents
Paint Naphthas
Crude Naphthas
Shingle Stain Oils

ARMSTRONG WHITWORTH OF CANADA
LIMITED

Montreal,
Toronto,
Hamilton,
Winnipeg



Works: LONGUEUIL, QUE.

Manufacturers in Canada of

Locomotive and Car Wheel Tires

HIGH SPEED and CARBON TOOL STEEL

Shurly & Derrett
Limited
TORONTO



Manufacturers of

Twines
Cotton and
Jute Rope



"DOMINION"
COTTON AND WOOL WASTE AND COTTON WIPERS, WASHED AND STERILIZED

A WASTE FOR EVERY USE

6 Grades White Cotton Wiping Waste
5 Grades Colored Cotton Wiping Waste
4 Grades Wool Packing Waste
3 Grades Cotton Wipers, Washed and Sterilized

Samples with Prices on Request

Scythes & Company Limited
Montreal TORONTO Winnipeg

the indirect action of the tariff, which curtailed the output of so many American industries which used steel as a raw material. Probably about one-half of these unemployed men voted for the Democratic party that destroyed their jobs. They did not know much about protection, but if it had been designated as a productive tariff and it had been kept before them, that the stability of their work depended upon the volume of steel production—their vote would have been a revelation to the industry killers.

Outgrown Protection?

A great majority of the Democratic party, and, strange to say, a minority of the Republican party think that the country has outgrown protection. They are like old Absalom Knowall, a strict orthodox deacon, who was vociferously denouncing Paine's "Age of Reason." When he was asked if he had read the book, "No," he thundered, "do you think I would read the works of an infidel?"

"There are none so blind as those who won't see." A great body of voters has a deep rooted antipathy against the word "Protection." To them it has become anathema because of political bias. To their prejudiced minds protection is the mother of trusts, the enemy of labor, and the chief source of the predatory wealth of the country. They are in the Deacon Knowall class, and will read no argument for protection. The only way to get their support for an adequate tariff law, is to eliminate the word "Protection," and substitute "Production," which explains itself.

Broad minded, loyal Republicans work honestly and conscientiously for protection, and wonder why the people cannot understand what they see so clearly.

> "Oh, would some power the giftie gie us
> To see oursel's as others see us."

The envenomed personal prejudice against the members of economic organizations like the Home Market Club and American Protective Tariff League, created to advance American industry, but continuously charged by the narrow minded industry killer with working solely for their own selfish interests, is what makes the word "Protection" misunderstood and unpopular.

Why were the great industrial producers of the United States not listened to when the Underwood tariff bill was drafted? Any intelligent person who requires plans for a building, goes to an architect; if in need of medical advice, he consults a physician; if he wants legal advice, he employs a lawyer. It was a travesty on the intelligence of the Sixty-third Congress, a reflection on their common sense, to enact a tariff law without consulting the only men competent to give a correct estimate of the duties that should have been levied.

Position of the Manufacturer

Why is it that in live cities and villages, the manufacturer is given the preference over any other business? Because from the very foundation of his business, all through his active career, he is a continuous employer of labor, and the wages he pays out filter through every line of business and benefit all. The Divine command: "The laborer is worthy of his hire," includes the employers of labor also. If a manufacturer benefits a community he deserves well of the community. Every manufacturer should be plain spoken and demand customs duties high enough to entitle him to make fair profits.

If more industrial leaders followed the example of Mr. George R. Meyercord, in his testimony before the Ways and Means Committee in 1909, it would advance the opportunities

STEEL BARS

ROUNDS, SQUARES, FLATS, ANGLES AND SPECIAL SECTIONS FOR AGRICULTURAL IMPLEMENTS

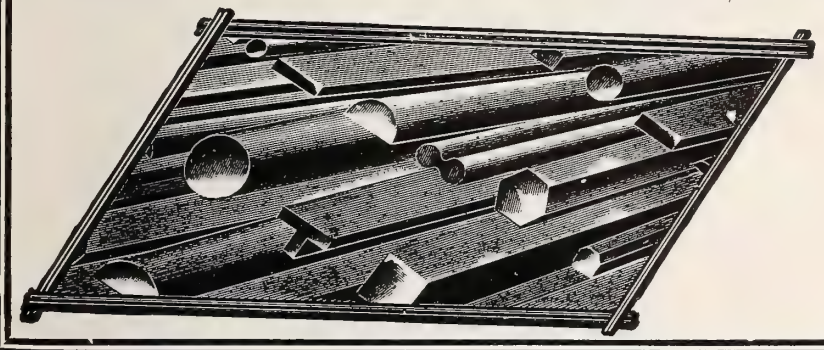
Prompt Shipment from Stock

BURLINGTON STEEL CO., Ltd.

HAMILTON - CANADA

UNION DRAWN STEEL CO., Limited

HAMILTON, ONTARIO



MANUFACTURERS OF

Shafting

Rounds, Flats, Squares and Hexagons

LARGEST STOCK IN CANADA

Get prices before ordering elsewhere.

CANADIAN TUBE & IRON CO., LIMITED

MONTREAL, CANADA

Ask Your Jobber for

WROUGHT PIPE BLACK AND GALVANIZED 1/8 TO 4 INCH

Thoroughly inspected and tested to 600 lbs. pressure and branded

CT Brand

Also BOLTS, NUTS, RIVETS—All Kinds

PRESSED SHIP SPIKES, BLACK AND GALVANIZED—All Sizes

SELLING AGENTS FOR

CANADIAN ROLLING MILLS CO., LIMITED

Bar Iron and Steel

COLONIAL WIRE MFG. CO., LIMITED

Wires, Wire Nails, Wood Screws, etc.

WORKS: LACHINE CANAL MONTREAL, CANADA

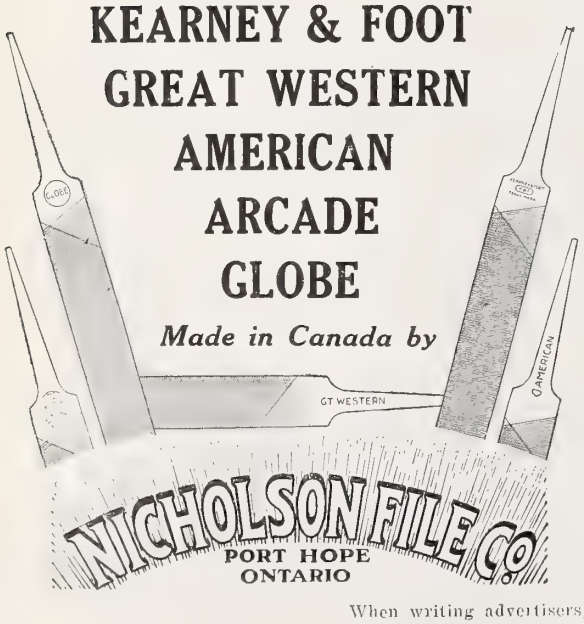
AWAY WITH DULL FILES

One hour's work with a dull file will cost you more in wasted labour than a new file.

Tell your men, therefore, to turn in files the moment they have passed their efficient point.

But to get files that give the longest efficiency specify "Famous Five" when you order.

They are:



for American production. Under the German tariff agreement then prevailing the lithographic business of the country was unprofitable, and Mr. Meyercord was trying to secure adequate tariff duties in order to overcome the German monopoly of the American trade. After finishing his direct testimony he was cross-questioned by Champ Clark, ranking Democratic member of the Committee.

Increase Duties, More Work

Speaking about the effect of the increased duties asked for, Mr. Clark said: "The result would be that your company, among others, would have more of that class of work to do?"

Mr. Meyercord: "Precisely so, that is exactly what we are here to bring about, namely, to do the lithographic work for Americans and do it with American labor, paid with American wage rates."

Mr. Clark: "In that case you would do more business and make more money?"

Mr. Meyercord: "That is our object and our purpose in asking for a material increase of the tariff on lithographic products; we want to do more business; we want to employ more labor, and we want to make more money ourselves."

Mr. Clark: "Well, it is gratifying to find one American manufacturer who is candid enough and truthful enough to tell exactly what he wants in the way of tariff duties."

The increase asked for was granted by the Payne law; it was a triumph for honest frankness as well as for American industry.

The American Protective Tariff League in their Roster of the Sixty-fifth Congress, published ninety-nine letters from Congressmen and prominent business men, all advocating protection, yet not one of them got right down to the main point that protection creates and maintains American production, the greatest employer of American wage earners.

Production spells prosperity!

To explain a political question in a convincing manner to people who will not take the trouble to solve an economic or political problem, there should be no perplexing confusion of names to mislead the voters. Make no mistakes on this point, there are a vast number of voters who confuse an American protective tariff with the American Protective Association. The similarity of the phrase is a cause of unnecessary prejudice which could be avoided by using "productive" tariff instead of "protective" tariff.

Menace of Inadequate Tariff

The real menace of an inadequate tariff to our great corporations is not the danger of forcing them into bankruptcy, but the great loss to the general public from the reduction of their output and opportunities for employment. The vast amount of work created by the demands of the great American home market must not be diverted to foreign countries by the oppressive workings of a competitive tariff.

You may catch a weasel asleep, but never for one moment will a Democratic tariff reducer admit that protection increases production. Oh, no! such an admission would be a practical acknowledgment that protection benefits labor. So they substitute ridicule for argument and talk about "the protected interests," "barricaded industries," "intrenched privileges," "shielded monopolies," "gray-bearded infant industries," etc.—anything to camouflage the plain truth that an adequate tariff law increases American production. The calumny with which they pollute our "protected industries" would in a great measure fail to contaminate our "productive" industries; because an attack on American production is an attack on American prosperity.



CANADIAN WIRE ROPE

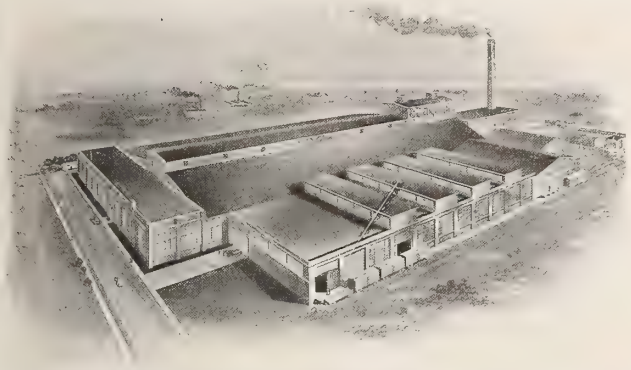
FOR

Ships' Rigging, Elevators, Cranes, Hawsers, Towing Lines, Etc.

MANUFACTURED BY

The DOMINION WIRE ROPE COMPANY, Limited

TORONTO - WINNIPEG - MONTREAL



SHAFTING

Cold Drawn, Cold Rolled
Turned and Polished Steel
FINISHED KEYS

The Canadian Drawn Steel Co., Ltd.

HAMILTON, CANADA

THE CANADIAN BRIDGE CO., Limited

WALKERVILLE, ONTARIO

Montreal Office: New Birks Building

MANUFACTURERS

RAILWAY AND HIGHWAY BRIDGES

Locomotive Turn Tables. Roofs, Steel Buildings and Structural Iron Work of all Descriptions

STEEL FRAME BUILDINGS

Roof Trusses,
Columns,
Fire Escapes,
Stairs,
Ladders, etc.



Plain Steel
Shapes, I-Beams,
H-Beams,
Channels, Angles,
Tees, Zees and
Bars,
Plates and Sheets

THE MARITIME BRIDGE COMPANY, LIMITED

New Glasgow - Nova Scotia

PRESSES

Made in Canada

HYDRAULIC PRESSES, PUMPS AND ACCUMULATORS

Forging, Nosing and Marking Presses for all Size Shells
Presses for General Purposes

WILLIAM R. PERRIN, Limited TORONTO CANADA

MALLEABLE IRON WASHERS

STANDARD PATTERNS



Cost less than Cast Iron Washers

Let us quote you prices

Otterville Mfg. Co. Limited
Otterville, Ont.

SMALL GREY IRON CASTINGS

BY SPECIAL PROCESS

Giving a Smooth, High-grade Casting for Enameling and Nickel Plating

Rubber Manufacturer's Equipment, Cast and Machined

CANADIAN-RUMLEY CO., Limited
48 Abell Street - Toronto, Ont.

ESTABLISHED 1875

The Boiler Inspection and Insurance Co. of Canada

Continental Life Building, Toronto

Issues Policies of Insurance after a Careful Inspection of the Boilers Covering Loss or Damage to Property and Loss Resulting from Loss of Life and Personal Injuries. Policies Guaranteed by The Hartford Steam Boiler Inspection and Insurance Company.
Assets for Security of Policyholders, $4,552,020.43.

H. N. ROBERTS . . . . . President
OLAF E. GRANBERG . . . . Vice-President
JAMES P. BYRNE . . . . . Secretary
M. B. ROBINSON . . . . . Asst. Secretary

DEVELOPMENT OF RUBBER INDUSTRY

For years wild rubber supplied all the world's needs, but with the development of the automobile came unprecedented demands for rubber, which sent the price of wild rubber up to $3.50 a pound. It was only the development of the plantation which saved the situation and made possible the wonderful development of the tire industry.

By H. S. FIRESTONE.

(From the "Michigan Manufacturer.")

Recent events, and particularly the war, have justified me in an opinion which I stated a few years ago when I was president of the Rubber Association of America. At the annual dinner of that organization I expressed some doubt as to whether the world at large, as well as those directly interested in the rubber industry, had a true appreciation of the importance of the rubber industry, and I ventured the assertion that rubber was the most important commodity in the world by reason of its great bearing upon the happiness and social welfare of the people as well as its immense importance commercially.

At that time Colonel Samuel P. Colt, president of the United States Rubber Company, who spoke after me, said:

"While I may not have the audacity to say with Mr. Firestone that rubber is the greatest product in the world, I would in all sincerity place it among the three greatest. I would say, steel first, I would put rubber second and I would put cement third."

There has always, or at least until very recently, been a mystery surrounding rubber. This is due possibly, first, to the fact that rubber is secured from the jungles and uninhabited countries, and, second, to the supposed secret processes by which rubber is worked up and put into serviceable condition. I am very glad, however, to say that this mystery is fast being eliminated and is resolving itself into a plain manufacturing and merchandising problem and that all possible skill and energy is being exerted to refine the problems that arise in its use as a manufacturing element. I regret to say that we grow practically no rubber under the American flag, which fact necessitates our sending yearly great quantities of money into foreign countries. In 1917 we sent to foreign countries, $189,000,000 in payment for crude rubber. With this rubber and what was already in the United States there was made in the United States $600,000,000 worth of rubber products and in 1918, it is estimated, we produced $800,000,000 worth of rubber products. The capital invested in the rubber industry is estimated at $300,000,000, and there are 1,000,000 persons dependent upon the rubber industry in the United States.

Rubber Cultivation Developed

The vast quantity of crude rubber necessitated by the enormously increased consumption in the United States, particularly, has given rise to a new business—that of cultivating rubber in large plantations.

Prior to 1903, all rubber used was wild rubber taken by the natives of the countries in which the rubber trees grow and prepared in a very primitive way. Records show that in 1900 about four tons of crude rubber were produced in plantations, while approximately 4,000 acres of land had been planted with trees. In 1905 there were 75,000 acres of cultivation, which yielded a production of 195 tons. By the year 1910 over 700,000 acres of trees had been planted and in that year approximately 10,000 tons were gathered. To-day there are more than a million acres of trees in cultivation, and in the year 1917 the total consumption of both wild and plantation



Penmans



Underwear, Hosiery and Sweaters
Laundry, Pulp and Papermakers' Felts, Blankets
Lumbermen's Socks, etc.

Factories at

PARIS, THOROLD, PORT DOVER, ALMONTE AND BRANTFORD, ONTARIO
ST. HYACINTHE AND COATICOOK, QUEBEC

Penmans LIMITED

PARIS : : : CANADA

Doon Twines
Limited

Kitchener - Canada

Manufacturers of

TWINES AND CORDAGE
CLOTHES LINES
PLOW LINES, etc.

We have a new line of Hemp Twine which we especially recommend for either light or heavy parcelling.

Our goods are made in Canada from the raw material. Assist the development of our country by buying Made-in-Canada goods.

MILLS AT DOON AND KITCHENER

The

MONTREAL COTTONS

LIMITED

MANUFACTURERS OF

WHITE VICTORIA LAWNS

WHITE NAINSOOKS

and

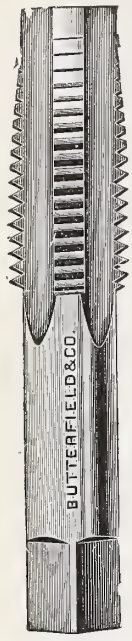
DYED COTTONS

OF EVERY DESCRIPTION

BUTTERFIELD

is the name that for many years has been standing as the recognized symbol of reliable quality in

TAPS



Butterfield Taps are made from a quality of steel that wears down very slowly. They do not have to be ground very frequently. They are fast-cutting, accurate tools, appreciated by the mechanic and they always appeal to the economical instincts of the purchasing agent. In fact they give all round satisfaction because

ABSOLUTELY DEPENDABLE

MADE IN CANADA BY

BUTTERFIELD & CO.

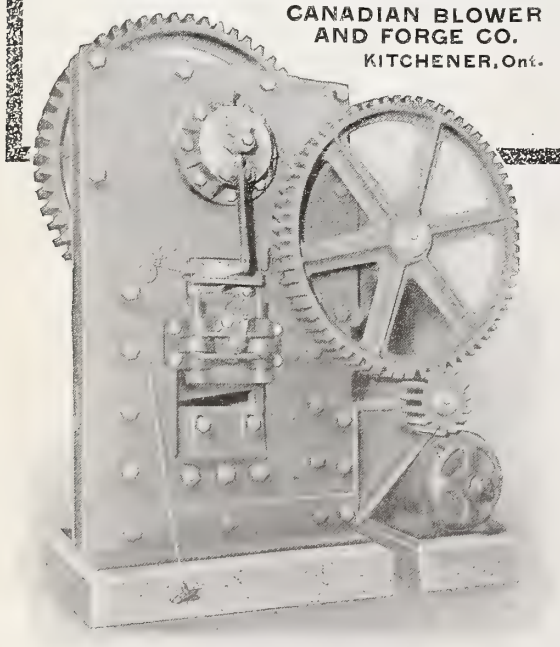
ROCK ISLAND - QUE.

CANADIAN ARMOR PLATE

PUNCHES, SLITTING SHEARS, and BAR CUTTERS are dependable. They are built of "Armor Plate" Steel—tensile strength 75,000 lbs. per square inch—7½ times as strong as cast iron.

That means a lighter and stronger machine—a machine built to take a lot of punishment. *Write for Catalogue P/S-51.*

CANADIAN BLOWER AND FORGE CO.
KITCHENER, Ont.



rubber in the United States was 157,000 tons—about 70 per cent. of which was plantation rubber.

For years wild rubber supplied all the world's needs, but with the development of the automobile came with it the unprecedented demands for rubber. In spite of these demands the supply of wild rubber increased very little and in 1910, by reason of the failure to increase wild rubber production the price in this country rose to $3.50 a pound. It was only the development of the plantation which saved the situation and made possible the wonderful development of the automobile and the tire industry.

Great Supply Inaccessible

It is true that in the jungles of South America there is more rubber than the world would be able to use for many years to come, but it is also true that it is so inaccessible in the great swamps and morasses of that country that it is virtually impossible to gather it. It was estimated that wild rubber, of the grade used in tires, which is the highest grade of rubber produced, could not be gathered for less than from 55 to 65 cents per pound. It is now claimed that this same grade of rubber can be produced by cultivation under favorable conditions at not to exceed 25 cents per pound. It is, in fact, now being produced for about 30 cents per pound, but for various reasons very little of it has been purchased at this price.

I have been referring to the rubber industry as a whole, which covers a great field of rubber products. The one product in which you gentlemen are primarily interested, however, is tires. Tires are either solid or pneumatic. In the manufacture of solid tires rubber is the all important factor; in the pneumatic there is another element which is fast becoming as important as rubber, namely—fabric. The tire fabric is made entirely from cotton. There are only certain kinds of cotton, which by reason of their peculiar characterizations, can be used in the building of tire fabric. There is the Egyptian, the Sea Island, the American-Egyptian and the American Peeler. During the period of the war a number of circumstances have caused cotton to increase in value to such an extent that fabric has come to have a most important bearing on the price as well as the quality of the tire. You have all heard, no doubt, of the cotton boll weevil, but very few of you, perhaps, have connected it in any way directly with your own business. Last year the cotton boll weevil made its appearance in the Sea Island cotton belt. This year it did so much damage as to reduce production materially.

U. S. Helps Improve Cotton Fibre

The United States Department of Agriculture has met this situation by placing experts in this belt to make an extensive study of the history of the boll weevil and to devise means for its eradication. These experts believe that they have discovered a method of control and that a fair supply of cotton may be expected from this source next year.

For many years Egypt has been an important source of supply for cotton used by tire manufacturers. The war not only reduced the acreage of this cotton, but brought about a laxity of supervision of cotton raising which affected the quality of the product. To meet this situation there has been created at Alexandria, Egypt, an organization which will hereafter sort and classify all cotton for export. This means that tire manufacturers will be able to get the particular grade of cotton they need with greater precision than heretofore.

There is an increasing acreage of cotton in some parts of the United States not heretofore given to the raising of that commodity.

The United States Department of Agriculture is giving these localities considerable attention with a view to the pro-



SPRINKLER TANKS and TOWERS

also wood and steel tanks for Municipal, Railway and Suburban water supply.

All our tanks and towers are built to pass inspection of any Board of Fire Underwriters.

Send for special tank and tower catalogue.

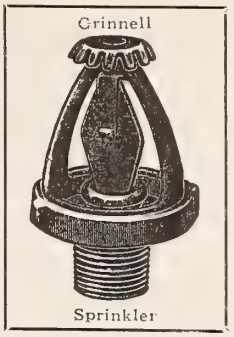
GALVANIZING HOT AND ELECTRIC

We do all kinds of hot and electro galvanizing for the trade. Our plant is one of the largest in Canada and our charges reasonable.

Write us for quotations on your galvanizing work.

Ontario Wind Engine & Pump Co., Limited

TORONTO MONTREAL WINNIPEG CALGARY



Save Fifty TO Ninety Per Cent.

of your insurance premiums and eliminate all fire worries by having us protect your factory and its output with an

Automatic Sprinkler System

Your savings in insurance premiums buy the complete system on our participating plan.

CONSULT US

Heating and Power Plants

Designed, installed or remodelled to reduce your maintenance cost to a minimum.

Expert advice given in all branches of Plumbing, Heating and Sprinkler Work.

PURDY, MANSELL LIMITED

Engineers and Contractors

63 ALBERT ST. TORONTO, CAN.

On Buying from a Business That You Own

The Hydro-Electric System is the property of the taxpayers and is operated in their interest at cost. Its "profits" are returned to the users in the shape of lower rates. Your co-operation has built up Hydro to its present important position—here in Toronto we have 54,000 customers—but co-operation could do more yet. Are you, Sir, a Hydro customer? If not just ask yourself, **"What should I be paying today for electric power if it were not for the Hydro?"**

Toronto Hydro-Electric System

226-8 Yonge St. Branch—Gerrard and Carlaw

Canada-South Africa
Direct Service

Regular monthly sailings from Montreal in Summer and St. John, N.B., in Winter, calling at Cape Town, Algoa Bay (Port Elizabeth), East London, Port Natal (Durban) and Delagoa Bay in the order named.

Sailings 20th of each month.

All steamers fitted with refrigerators for the carriage of perishable freight.

For rates of freight and other information apply to

ELDER DEMPSTER & CO., Limited
133 BOARD OF TRADE BUILDING - - MONTREAL
Toronto Agent: S. J. SHARP, 79 Yonge St., Royal Bank Bldg.

THE
New Zealand Shipping Company, Limited
CANADA
TO
Australia and New Zealand

Regular monthly sailings from Montreal in summer and St. John in winter, calling at Auckland, Wellington, Lyttelton and Dunedin (New Zealand) and Melbourne and Sydney (Australia). Sailings 20th of each month.

Through bills of lading issued to all points in Australia, New Zealand, Tasmania and other islands of Oceania.

Marine Insurance effected at rates equal to those given from New York.

For rates and other information apply to

The New Zealand Shipping Co.
LIMITED
213 Board of Trade Building, Montreal

duction of high grade cotton. Experiments of this nature are being made in Arizona and Yazoo Valley and some success is attending the efforts with a prospect of placing this on a commercial scale.

War Curtailment

The manufacture of tires for ten years has steadily increased by leaps and bounds until last year. In 1918, as a result of the great economic question with which the nation in war was confronted, our Government took steps looking to a decrease in production and a marked curtailment of the manufacturing programme. In the first place, the War Trade Board, in order to release shipping space, limited the importation into this country of crude rubber to 100,000 tons for the calendar year 1918. The War Industries Board, in order to conserve labor and various commodities essential in the prosecution of the war, on July 31, 1918, placed upon manufacturers of tires a restriction for the last six months of the year which limited the production of pneumatics to 50 per cent. of the number produced in the corresponding period of 1917. Further curtailment would unquestionably have been made had not the war been won when it was. With the removal of these restrictions, however, tire manufacturers will now readjust themselves with a view to return to their normal programmes of manufacture.

Speaking of this brings me to Germany's need of rubber. When the war began Germany had about 70,000 motor vehicles requiring tires. The English blockade prevented the importation of crude rubber into that country and thus confined Germany's consumption of rubber to its stock on hand. This proved to be a sufficient supply for the first year of the war only, and in 1916 the price of crude rubber advanced to $10 a pound. Rubber goods, and more particularly tires, were used only absolutely essential and substitutes were eagerly sought. Their efforts were attended with very little success and none of their substitutes have proved of any value commercially.

The war has effected some important changes in the production and transportation of crude rubber. The Rubber Growers' Association has introduced standard practices in gathering and coagulating the rubber latex in such a way as to enable rubber manufacturers to get a better and more uniform product.

In the early days, by reason of the fact that practically all rubber plantations were located in the English colonies, the custom became established of shipping crude rubber from the estates in the far east to London. American manufacturers, therefore, had to depend on the London market for the bulk of their rubber supply. When the war broke out it became difficult to ship rubber from the plantations to London and American manufacturers, who consume about 70 per cent. of the world's production, began to buy rubber direct from the far east and ship it via the Pacific. In view of the fact that the United States is the largest buyer of crude rubber in the world, it is very probable that the present methods of buying in the far east will continue. This will mean a saving of about five cents per pound in the purchase price of the rubber. The difficulty in getting ocean transportation has developed new economies in shipping crude rubber. It was formerly the custom to pack the rubber in boxes, but by the method now in use the rubber is compressed into compact bales which eliminates the necessity of boxes and means a saving of several million dollars a year in shipping cost.

Standardization of Sizes Helps

In the field of tires the most noteworthy change which the war has brought about has been the standardization of sizes. This means the elimination of a great number of sizes and the centring of production upon those sizes which reasonably provide for almost every kind of motor vehicle. This is



Get Acquainted *with the* Canadian Pacific Skyline

See this Alpine Fairyland by daylight — 150 peaks of 10.000 feet or more — waterfalls — lakes — big game forests — irridescent glaciers near spacious hotels at Banff and Lake Louise, and mountain chalets at Emerald Lake, Glacier, Sicamous.

Golf, swim in warm sulphur pools, follow the mountain roads and trails—enjoy your favorite pastime in exhilarating ozone.

Particulars from Ticket Agents

W. B. HOWARD

DISTRICT PASSENGER AGENT TORONTO

The Canadian Wood Turpentine—made at our mills at LaTuque, P. Q., is an excellent diluent and solvent and contains no free rosin.

Further information will gladly be sent upon request.

BROWN CORPORATION

Sales Office: *Portland, Maine, U. S. A.*

STEEL FACTORY EQUIPMENT



Steel Waste Paper Basket

Steel Shop Boxes, Foundry Boxes, Shelf Boxes, Shop Barrels, Stools, Oily Waste Cans, Garbage Cans

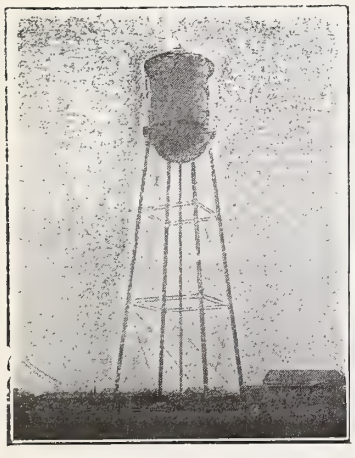
Gasoline Tanks and Pumps, Pressure Tanks, Storage Tanks, Smoke Stacks

Anything in Black or Galvanized Sheet Metal up to ⅛ thickness. Send blue print or rough drawing and get our prices.

Sheet Steel Sundries for the manufacturers is one of our specialties.

Write us.

The Steel Trough and Machine Co., Limited
Tweed, Ont., Canada



CANADIAN CHICAGO BRIDGE AND IRON COMPANY
Limited
Bridgeburg, Ontario

ELEVATED STEEL TANKS
For Municipal, Railroad and Factory Service

Storage Tanks, Self-Supporting Steel Stacks and All Classes of Heavy Plate Metal Work

Write our nearest sales office to-day for prices, plans and specifications. Our catalogue No 25 gladly mailed to you, upon request.

OFFICES:
Bridgeburg, Ont., Can., 121 Janet St.
Chicago, Ill., 1315 West 105th Street
New York, 3132 Hudson Terminal Bldg.

SHOPS:
Bridgeburg, Ontario
Greenville, Pa (Pittsburg District)
Chicago, Illinois

SPECIAL MACHINERY

Built to Order

Also gauges, punches, jigs, dies, small tools, etc.
Prompt Service.
Moderate cost.
Send Blueprints for estimate.

Brown Engineering Corporation
LIMITED, TORONTO
415-419 King St., W. Tel. Adel. 425

MADE IN BR·E·N·Co CANADA

going to mean less investment to the manufacturer in equipment and stock, less investment to the dealer in stocks and a quicker turnover for his investment, and ultimately less cost per mile to the consumer in transportation.

Now that the war is over, the rubber industry of the United States, so largely dependent upon foreign raw materials for its essentials, and being called upon for a world supply of rubber products, is intensely interested in the outcome of the peace conference. The Rubber Association of America has prepared a brief, outlining the importance to the industry of the proper diplomatic arrangements with foreign markets arising out of the settlement of the world's affairs. Should there be export duties or embargoes placed on the shipments of crude rubber in the United States, the obvious effect would be to raise the price of all rubber products and particularly tires in proportion with the restriction imposed. Increased price must necessarily affect our export business as well as our domestic business. Curtailment of volume in itself must needs give rise to further increases in price. We trust, however, that the matter will be so handled that the industry may proceed without hindrance and without impairment to supply the wants of mankind both at home and abroad.

Auto Industry Uses 70 Per Cent.

The effect upon the automobile industry of any radical changes in the tire manufacturing business can be readily seen from the fact that during 1917 the automobile industry consumed approximately seventy per cent. of the crude rubber imported into this country and that the value of tires sold amounted to $420,000,000. In 1917 there were in operation in the United States nearly 5,000,000 cars and it is estimated that by January 1, 1919, there will be operated more than 5,600,000, an increase of twelve per cent. During the present year the tire manufacturers have had to add considerable floor space in order to take care of Government business. This space can now be devoted to the requirements of the automobile industry and preparation is now being made to supply the country's requirements upon a larger basis than ever before. With this outlook for the future, and the benefit of our experience in the past, I feel sure that the tire manufacturers who are giving great thought and effort to the working out of the problems which must be solved, will be able to work out their difficulties in such a way that they will be able to give to your business a better service than ever before.

The Peck Carrier

With its usual emphasis on the illustrative side of catalogue production, the Link-Belt Company has devoted many pages of its latest publication, "The Peck Carrier," to a series of excellent views of installations of this labor-saving device for the handling of coal, coke, ashes, cement, sand, ore, stone and other materials. In addition, complete specifications are given of the various standards, while the catalogue is prefaced by useful illustrated descriptive matter. It is a publication of 96 pages, arranged in compact form, which should be in the hands of all manufacturers having carrying problems to solve.

Frank H. Simonds, United States war correspondent now in Europe, thus defines Bolshevism:—

"Bolshevism is, as much as it is anything, an attack upon the theory and system of private property. It is surely and simply communism. It is class warfare directed against all our political and economical theories in the western world. It seeks to govern the world by masses of the least skilled labor. It is killing all men of capacity and ability in Russia. It wars upon nationalism, upon patriotism, upon all that we have been accustomed to regard as organized civilization. Its only liking for the League of Nations is based upon the conviction that the League of Nations will disarm exactly those forces which might otherwise resist Bolshevism, and so far this is an accurate conclusion."

There is Some Magic in the Phrase: "Government Control," but—

The mere merging for administrative purposes of the lines of the Intercolonial, National Transcontinental, and Canadian Northern Railways into Canadian National Railways, serving though they do the nine provinces of Canada, the great producing areas, the chief ports, and most of the industrial, commercial and financial centres, is not in itself sufficient guarantee for their successful operation.

Revenue Comes from Rates and Fares, and Rates and Fares from the Transportation of Goods and People.

The people of Canada look to the Board of Directors and Management of Canadian National Railways to give the utmost in service for the welfare of the people as a whole. It is the undoubted right of shippers and passengers to demand the best in service.

The management of the "National" is ready and anxious to give the most efficient service to all establishments and points exclusive to its lines, and is moving strongly on the proper business basis for competitive tonnage. It has plenty of power and ample equipment for the nation's service.

AGENCIES FROM COAST TO COAST

Canadian National Railways

PRINCIPAL OFFICES: HALIFAX, N.S.; ST JOHN, N.B.; QUEBEC, QUE.; MONTREAL, QUE.; OTTAWA, ONT.; TORONTO, ONT.; PORT ARTHUR, ONT.; WINNIPEG, MAN.; REGINA, SASK.; SASKATOON, SASK.; PRINCE ALBERT, SASK.; EDMONTON, ALTA.; CALGARY, ALTA.; KAMLOOPS, B.C.; NEW WESTMINSTER, B.C.; VANCOUVER, B.C.; VICTORIA, B.C.

Hon. Finlay G. Macdiarmid
Minister of Public Works

W. A. Riddell, M.A., Ph.D.
Superintendent Trades and Labour

ONTARIO

TRADES AND LABOUR BRANCH
DEPARTMENT OF PUBLIC WORKS

Reconstruction

is the word on every lip to-day. The problems of the re-adjustment period require the same whole-hearted co-operation of every element in the community which has made victory possible.

Manufacturers and other employers of labour can greatly assist in bringing labour conditions back to normal by obtaining their help through the

Ontario Government Public Employment Bureaus

During the past two years the employment bureaus have assisted materially in providing labour for Ontario's farms and munition plants. The bureaus are now extended in number and staff and are prepared to help you in your post-war labour problems.

We are working in closest co-operation with the Dominion Employment Service and the Department of Soldiers' Civil Re-establishment.

We should be glad to send a special representative to talk the matter over with you. Drop a line to the Provincial Employment Clearing House, 45 King Street West, Toronto, or telephone Main 3501.

TRADES AND LABOUR BRANCH
DEPARTMENT OF PUBLIC WORKS

Our Motto—"The Right Man in the Right Job."

Catalogues and Booklets

Truscon Building Products

The Trussed Concrete Steel Co. of Canada, Limited, have just issued an eighth edition of their convenient little pocket-size catalogue of Truscon Building Products. It constitutes a handy little encyclopedia, 80 pages in extent, of the various building products made by this company. Everything that the company manufactures is listed and described, frequently with the addition of halftone or line illustrations, and there is a convenient index at the back to facilitate the search for particular items. The booklet is really intended merely as an outline of the various Truscon products. Complete catalogues devoted to any individual product, and containing full information, are procurable and will be sent on request.

A Yale Products Catalogue

There has just been issued "Catalog No. 1" of the Canadian Yale & Towne, Limited, St. Catharines, Ont., containing an illustrated description of the complete line of Yale products manufactured in the company's Canadian plant. The catalogue, which is very strongly put together, contains 174 pages and is very handsomely printed and clearly illustrated. It is scarcely necessary to refer to the quality of the Yale line of locks and hardware. The name "Yale" has become a household word. The fact, however, that the line is being constantly augmented and diversified makes it desirable that those requiring these goods should have the new catalogue on hand in order to be posted on the latest developments.

Western Canada Mining Directory

The Progress Publishing Co., Ltd., of Vancouver, have just issued the 1919 edition of their "ABC" Western Canada Mining Directory and Year Book, being one of their series of "ABC" Trade Directories. As its name implies this book, within the scope of about 120 pages, comprises a complete directory of metalliferous and coal mines in British Columbia, Alberta, Saskatchewan and Manitoba and the Yukon, and the directory section gives not only the names of the mines but the names of owners, location, state of development, product, capital, and similar information. The book also contains a section giving full details of the personnel of mining departments of the Provincial and Dominion Governments and lists of officials, with associations and organizations connected with the mining industry. Another section of the book gives in condensed form the mining laws of the western provinces and those of the Dominion affecting Western Canada.

The book should prove a valuable addition to the reference shelves not only of people directly interested in mining but of the business community in general.

A Fine Plant Illustrated

The Dominion Forge & Stamping Co., Ltd., Walkerville, Ont., have issued an attractive catalogue, showing exterior and interior views of their forge plant, their sheet metal plant and their automobile frame plant. The company are equipped to make all kinds of forgings, stampings and heavy drawn steel parts to specification; and from this catalogue a manufacturer can obtain an idea of the excellent facilities the company have for turning out this class of product, particularly in large quantities.

For instance, illustrations are shown of the steam hammer shop with its twenty steam hammers, ranging in capacity from 6,000 pounds to 600 pounds, of the board hammer shop with its fifteen board hammers, ranging in capacity from 800 pounds to 2,000 pounds; and of the forging machine department, with its five upsetting machines. Also there are shown illustrations of the stamping plants with their three hundred presses, capable of forming steel sheets cold up to ⅜ of an inch in thickness. Illustrations of special note are the two die sinking and tool making departments, where all the forging and stamping dies and tools are made. There are also four pages of illustrations of typical forgings, stampings and heavy steel drawn parts made for various customers.

Any manufacturer using forging or steel stampings of any kind should be much interested in this catalogue, copy of which will be sent on request.

Buyers' Guide to Canadian Manufactures

List of Articles which will Enable the Purchaser to Know the Manufacturers of Made-in-Canada Goods. For Rates of Insertion in this Department write to the Advertising Manager of INDUSTRIAL CANADA, C.M.A., Toronto, Ont.

ABATTOIR MACHINERY and SUPPLIES
*The John Whitfield Company, Toronto, Ont.
ABRASIVES
*Coralox, Limited, Hamilton, Ont.
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
*Dominion Abrasive Wheel Co., New Toronto, Ont.
ACCOUNT BOOKS
*The Brown Bros., Ltd., Toronto.
ACETYLENE GAS
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.
ACETYLENE GAS BURNERS
Economic Acetylene Burner Co., Toronto, Ont.
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.
ACIDS
*The Grasselli Chemical Co., Ltd., Toronto.
*The Nichols Chemical Co., Ltd., Montreal.
ADVERTISING NOVELTIES
Lawson & Jones, Ltd., London, Ont.
AERATED BEVERAGES
Charles Gurd & Co., Ltd., Montreal, Que.
J. J. McLaughlin, Ltd., Toronto.
AIR COMPRESSORS
*Canadian Ingersoll-Rand Co., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
AIR DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
ALCOHOL
*Canadian Industrial Alcohol Company, Limited, Montreal, Que.
Hiram Walker & Sons, Limited, Walkerville, Ont.
ALUMINUM
*Northern Aluminum Co., Ltd., 1305 Traders Bank, Toronto.
ALUMINUM CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.
AMMONIA
Canadian Ammonia Co., Ltd., Toronto.
ANCHORS, all steel
Beauchemin & Fils, Ltd., Sorel, Que.
ANGLE BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*The Steel Company of Canada, Limited, Hamilton, Ont.
ARSENIC
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.
ASBESTOS:
*Eureka Mineral Wool & Asbestos Co., Toronto.
ASBESTOS SHEATHING:
*Eureka Mineral Wool & Asbestos Co., Toronto.
ASBESTOS SHEET AND PISTON PACKINGS
*Eureka Mineral Wool & Asbestos Co., Toronto.
ASBESTOS STEAM PIPE AND BOILER COVERINGS
*Eureka Mineral Wool & Asbestos Co., Toronto.
ASBESTOS TEXTILES:
*Eureka Mineral Wool & Asbestos Co., Toronto.
ATTACHMENT PLUGS
*Crouse-Hinds Co., Ltd., Toronto.
AUTOGRAPHIC REGISTERS
*Autographic Register Co., Ltd., Montreal.
AUTOGRAPHIC REGISTER SYSTEMS
Business Systems, Ltd., Toronto.
AUTOMOBILE ACCESSORIES
*McKinnon Industries Limited, St. Catharines, Ont.
*Northern Electric Co., Limited, Montreal.
*Tallman Brass & Metal Co., Hamilton, Ont.
AUTOMOBILE PARTS
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.
AWNING CORD (cotton)
Hamilton Cotton Co., Hamilton
AXLES
Canada Forge Co., Ltd., Welland
Guelph Spring & Axle Co., Ltd., Guelph, Ont.
AXLES, carriage and automobile
Guelph Spring & Axle Co., Ltd., Guelph, Ont.
BABBITT METAL
Alenzo W. Spooner, Limited, Port Hope, Ont.
*The Canada Metal Co., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.
BACON
E. W. Fearman Co., Ltd., Hamilton
BAGS
*Scythes & Co., Ltd., Toronto.
BAGS, Cotton
The Canadian Bag Co., Ltd., Montreal, Que.
BAGS, jute
The Canadian Bag Co., Ltd., Montreal, Que.
*Scythes & Co., Ltd., Toronto.
BAGS, travelling
J. Eveleigh & Co., Ltd., Montreal
Lamontagne, Ltd., Montreal, Que.
The M. Langmuir Mfg. Co., of Toronto, Ltd., Toronto.
BAND RESAWS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
BAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
BANK FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.
BANK AND OFFICE RAILINGS AND CAGES
*Canada Wire and Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London.
*The Geo. B. Meadows, Toronto, Wire, Iron & Brass Works Co., Ltd., Toronto.
BANK SIGNS AND FITTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.
BARRELS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
BARS, iron
London Rolling Mill Co., Limited, London, Ont.
BARS, steel
London Rolling Mill Co., Limited, London, Ont.
BASEBALL GOODS
A. J. Reach Co., Brantford, Ont.
BATHS, enamelled
Amherst Foundry Co., Ltd., Amherst, N.S.
BATTERIES, dry
The Canadian National Carbon Co., Ltd., Toronto.
BATTERIES, Flashlight
The Canadian National Carbon Co., Ltd., Toronto.
BATTERIES, Storage
The Canadian National Carbon Co., Ltd., Toronto.
BEARINGS
*The Chapman Double Ball Bearing Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
BEARINGS, bronze
*Tallman Brass & Metal Co., Hamilton, Ont.
BEARINGS, pillow block and upright
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
BEDS, camp folding
*Otterville Mfg. Co., Ltd., Otterville, Ont.
BEEF
E. W. Fearman Co., Ltd., Hamilton, Ont.
BELTING, chains
*Canadian Link-Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
BELTING, elevator
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
BELTING, leather
The Beardmore Belting Co., Ltd., Toronto.
*J. L. Goodhue & Co., Danville, P.Q.
*Sadler & Howarth, Montreal.
*The D. K. McLaren Belting Co., Ltd., Montreal.
*The J. C. McLaren Belting Co., Ltd., Montreal.
BELTING, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Limited, Toronto.
BELTING, stitched cotton duck
*Dominion Belting Co., Ltd., Hamilton.
BENT GOODS
The Crown Lumber Co., Woodstock, Ont.
BICYCLES AND ACCESSORIES
*Canada Cycle and Motor Co., Ltd., Toronto.
BISCUITS
The Montreal Biscuit Co., Montreal, Que.
BLACK SHEETS
*A. C. Leslie & Co., Montreal.
BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Ltd., Bolton, Ont.
BLANKETS, horse
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Limited, Bolton, Ont.
BLASTING ACCESSORIES
Canadian Explosives, Ltd., Montreal, Que.
BLEACHING POWDER
Canadian Salt Co., Ltd., Windsor,
BLOWERS
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Limited, Kitchener, Ont.
BOARDS, wood, binder, fibre specialties
*Beveridge Paper Co., Limited. Montreal.
BOATS OF ALL KINDS
Peterboro Canoe Co., Ltd., Peterboro, Ont.
BOBBINS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
BOILER COMPOUND and OILS
Electric Boiler Compound Co., Ltd., Guelph, Ont.
BOILER PRESERVATIVES
*Beveridge Paper Co., Limited. Montreal.
BOILERS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Darling Bros., Montreal.
*Goldie & McCulloch Co., Limited, Galt, Ont.
*Lauzon Engineering Limited, Levis, Que.
J. & R. Weir, Montreal, Que.
Taylor-Forbes Co., Ltd., Guelph
*The Waterous Engine Works Co., Ltd., Brantford.
BOILERS, hot water or steam.
Steel & Radiation, Ltd., Toronto
Warden King, Ltd., Montreal, Que.
BOILERS, steam.
Canadian Ingersoll-Rand Co., Sherbrooke, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
BOILERS, steam and brass work
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
BOILER STANDS
Anthes Foundry Ltd., Toronto.
BOLSTERS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
BOLTS AND NUTS
*The Canadian Tube & Iron Co., Ltd., Montreal, Que.
*The National Acme Mfg Co., Montreal., Que.
*The Steel Company of Canada, Limited, Hamilton, Ont.
Starr Mfg. Co., Ltd., Dartmouth, N.S.
BOOKBINDERS
R. G. McLean, Toronto.
*The Brown Bros., Ltd., Toronto.
The Mortimer Co., Ltd., Ottawa.
BOOKCASES
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
BOOKCASES, sectional (Gunn)
The George McLagan Furniture Co., Ltd., Stratford, Ont.
BOOKLETS
R. G. McLean, Toronto.
BOOKS, blank
*The Brown Bros., Ltd., Toronto.
BOOTS AND SHOES
Ames-Holden-McCready, Ltd., Montreal, Que.
J. Leckie Co., Ltd.
The John Ritchie Co., Ltd., Quebec, Que.
BOXES
*Crouse-Hinds Co., Ltd., Toronto.
BOXES, cellular board:
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls.
BOXES, rattle and soap
The Arlington Co. of Canada, Ltd., Toronto.
BOXES, steel shop
*Steel Trough and Machine Co., Ltd., Tweed, Ont.
BOXES AND SHOOKS, wooden
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
BOXES, wooden
G. & J. Esplen, Montreal, Que.
Barchard & Co., Ltd., Toronto.
BOXBOARDS, for making paper boxes
*Canada Boxboard Co., Limited, Montreal, Que.
BRAIDS AND TRIMMINGS
The Moulton Mfg. Co., Limited, Montreal.
BRAKE SHOES
*Canadian Hart Wheels, Limited, Hamilton, Ont.
BRAKE SHOE BACKS
*The John Whitfield Company, Toronto, Ont.
BRANDS, burning
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

*For Display Advertisement see Index, Page 43

BRASS BOLTS AND NUTS
*Tallman Brass & Metal Co., Hamilton, Ont.
*United Brass & Lead, Ltd., Toronto
BRASS AND BRONZE WIRE
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
BRASS, BRONZE and ALUMINUM LETTERS
*Tallman Brass & Metal Co., Hamilton, Ont.
BRASS ENGRAVERS
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
BRASS FOUNDERS AND FINISHERS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.
BRASS GOODS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto.
*Mueller Mfg. Co., Sarnia.
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto.
*The Kerr Engine Co., Ltd., Walkerville, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
BRASS PLATES
Geo. Booth & Son., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.
BRASS RODS
*Tallman Brass & Metal Co., Hamilton, Ont.
BRASS RODS, SHEETS AND PLATES
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.
BRASS SHEETS AND PLATES.
*Dominion Copper Products Company, Limited, Montreal.
BRASS SIGNS AND MEMORIALS
*Tallman Brass & Metal Co., Hamilton, Ont.
BRASS TUBING, seamless
Canadian Seamless Wire Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Company, Limited, Montreal.
BRASS WIRE
Canadian Seamless Wire Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.
BRASS WORK, church
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
BRASS WORK, special
Bawden Machine Co., Ltd., Toronto.
*H. Mueller Mfg. Co., Ltd., Sarnia.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
BRICK
National Brick Co. of Laprairie, Laprairie, P.Q.
Port Credit Brick Co., Port Credit.
The Citadel Brick & Paving Block Co., Ltd., Quebec.
BRICK, enamel
National Brick Co. of Laprairie, Laprairie, P.Q.
BRICK, pressed
National Brick Co. of Laprairie, Laprairie, P.Q.
The Citadel Brick & Paving Block Co., Ltd., Quebec.
BRICK, rubbing
*Canadian Hart Wheels, Limited, Hamilton, Ont.
BRICK, sewer
National Brick Co. of Laprairie, Laprairie, P.Q.
BRIDGES, Railway and Highway
*Hamilton Bridge Works Co., Ltd., Wakerville, Ont.
*The Canadian Bridge Co., Ltd., Hamilton, Ont.
*McGregor & McIntyre, Ltd., Toronto.
*Dominion Bridge Co., Montreal.
*Mackinnon Steel Co., Ltd., Sherbrooke, Que.
*Manitoba Bridge & Iron Works, Ltd., Winnipeg.
BROOMS
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Limited, Port Elgin, Ont.
BRONZE SHEETS AND PLATES
*Dominion Copper Products Company, Limited, Montreal.
BRONZE, SHEETS, RODS, PLATES
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.
BRONZE TUBING, Seamless.
*Dominion Copper Products Company, Limited, Montreal.
BRUSHES
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Limited, Port Elgin, Ont.
BRUSHES, carbon
Canadian National Carbon Co., Ltd., Toronto.
BUCKET TANKS
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
BUCKLES, shoe and coat
Parmenter & Bulloch Co., Limited, Gananoque, Ont.
BUCKLES, harness and trunk
*McKinnon Industries Limited, St. Catharines, Ont.
BUILDING BLOCKS, vitrified, salt glazed
Standard Clay Products, Ltd., St. Johns, Que.
BUILDING FELT and PAPER
*Eureka Mineral Wool & Asbestos Co., Toronto.
*The Barrett Co., Ltd., Toronto and Montreal.
BURLAPS
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Ltd., Toronto.
BURLAPS, decorative
Dominion Oil Cloth Co., Limited, Montreal, Que.
CABLE ACCESSORIES
*Crouse-Hinds Co., Ltd., Toronto.
CABLES, electric light, power, telephone and telegraph
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
CABLES, transmission and telephones
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.
CABLES, Transmission and Cable
*Northern Electric Co., Limited, Montreal, Que.
CABLES, wire
The Dominion Wire Rope Co., Ltd., Montreal, Que.
*The B. Greening Wire Co., Ltd., Hamilton, Ont.
CALENDARS, ADVERTISING NOVELTIES, etc.
Lawson & Jones, Limited, London.
CAMERAS
Canadian Kodak Co., Limited, Toronto.
CAMPERS' OUTFITTERS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
CANADA SILVER
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.
CANOES
Peterboro Canoe Co., Ltd., Peterboro, Ont.
*Canadian Canoe Co., Ltd., Peterborough.
CANS, baking powder, etc.
American Can Co., Montreal and Hamilton.
A. R. Whittall Can. Co., Ltd., Montreal.
CANS, fruit
American Can Co., Montreal and Hamilton.
A. R. Whittall Can. Co., Ltd., Montreal.
CANS, iron, lead and putty
A. R. Whittall Can. Co., Ltd., Montreal.
CANS, ROVING, ETC., fibre
*Beveridge Paper Co., Limited, Montreal.
CANS, tin
A. R. Whittall Can. Co., Ltd., Montreal.
American Can Co., Montreal and Hamilton.
CANVAS
*Scythes & Co., Ltd., Toronto.
CAPS, cloth
John W. Peck & Co., Ltd., Montreal. Que
CAPS FOR HUBS
*McKinnon Industries Limited, St. Catharines, Ont.
CARBIDE
*Canada Carbide Co., Ltd., Montreal, Que.
*Union Carbide Co. of Canada, Ltd. Works, Welland, Ont. Head Office, Toronto.
CARBONS, Electric
Canadian National Carbon Co., Ltd., Toronto.
CARBONS (headlight)
*Crouse-Hinds Co., Ltd., Toronto.
CARBONIC ACID GAS
Canadian Carbonate Co., Montreal.
CARD RECORD SYSTEMS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
CARPETS AND RUGS
Toronto Carpet Mfg. Co., Limited, Toronto.
CARPETS AND RUGS, Axminster and ingrain
Toronto Carpet Mfg. Co., Limited,
CARPETS AND RUGS, Brussels and Wilton
Toronto Carpet Mfg. Co., Limited, Toronto.
CARPET YARNS, worsted and wool
Toronto Carpet Mfg. Co., Limited, Toronto.
CARRIAGE CASTINGS
*McKinnon Industries Limited, St. Catharines, Ont.
CARRIAGES, baby, etc.
Canada Furniture Manufacturers, Ltd., Woodstock, Ont.
CARRIERS
*Richards-Wilcox Canadian Co., Limited, London, Ont.
CARRIERS, box and barrel
*Canadian Mathews Gravity Carrier
CARRIERS, brick
*Canadian Mathews Gravity Carrier Co., Limited, Toronto.
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
CARS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*National Steel Car Co., Limited, Hamilton, Ont.
CARS, industrial
Hammant Steel Car and Engineering Works, Hamilton.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
CARTONS, lithographed
Harris Lithographing Company, Limited, Toronto.
CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.
CASTINGS, aluminum
*Booth-Coulter Copper & Brass Co., Limited, Toronto.
*Crouse-Hinds Co., Ltd., Toronto.
'Tallman Brass & Metal Co., Hamilton, Ont.
CASTINGS, brass
*Booth-Coulter Copper & Brass Co., Limited, Toronto.
*Crouse-Hinds Co., Ltd., Toronto.
*Lauzon Engineering Limited, Levis, Que.
*Tallman Brass & Metal Co., Hamilton, Ont.
CASTINGS, brass and bronze
*Tallman Brass & Metal Co., Hamilton, Ont.
CASTINGS, grey iron
*Canadian Rumely Co., Limited, Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Dodge Mfg. Co., Toronto.
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Wm. Kennedy & Sons, Ltd., Owen Sound, Ont
*Lauzon Engineering, Limited, Levis, Que.
CASTINGS, malleable iron
*Crouse-Hinds Co., Ltd., Toronto.
*Galt Malleable Iron Co., Ltd., Galt, Ont.
CASTINGS, steel
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton, Ont.
*Hull Iron and Steel Foundry, Ltd., Hull, P.Q.
*Wm. Kennedy & Sons, Ltd., Owen Sound.
CATALOGUE MAKERS
Grip, Ltd., Toronto
CATALOGUE COVERS, by new lithographing process
Harris Lithographing Company, Limited, Toronto.
CAUSTIC SODA
Canadian Salt Co., Ltd., Windsor,
CAUSTICS
*Dominion Oil Co., Ltd., Hamilton.
CELLBOARD
Adams Cellboard Co., Toronto,
CEMENT GUNS
Steel and Radiation, Ltd., Toronto.
CEMENT, HIGH TEMPERATURE
*Beveridge Paper Co., Ltd., Montreal.
CENTRIFUGAL PUMPS
*The Goldie & McCulloch Co., Limited, Galt, Ont.
CHAINS, for elevators, conveyors and drives
*Canadian Link-Belt Co., Toronto.
CHAINS, sling
*The John Whitfield Company, Toronto, Ont.
CHAIRS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
CHAIRS, assembly hall
Stratford Mfg. Co., Ltd., Stratford, Ont.
CHAIRS, folding
Stratford Mfg. Co., Ltd., Stratford, Ont.
CHAIRS, rattan and upholstered
Imperial Rattan Co., Ltd., Stratford, Ont.
CHAIRS FOR AUTOMOBILES, camp, boat
*McKinnon Industries Limited, St. Catharines, Ont.
CHAIR SEATS, fibre
*Beveridge Paper Co., Limited, Montreal.
CHECKS, swing checks, etc
*Mueller Mfg. Co., Ltd., Sarnia.
CHEMICALS
*Dominion Oil Co., Ltd., Hamilton.
*The Grasselli Chemical Co., Ltd., Toronto.
*The Nichols Chemical Co., Ltd., Montreal, Que.
CHEMISTS, INDUSTRIAL
*Milton Hersey Co., Montreal.
CHICLETS AND CHEWING GUM
Canadian Chewing Gum Co., Ltd., Toronto.
CIGARETTES AND TOBACCO
Philip Morris & Co., Limited, Montreal, Que.
CIRCULAR CUTTERS, solid steel
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Limited, Galt, Ont.
CIRCULAR SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
CLAM SHELL BUCKETS
*M. Beatty & Sons, Ltd., Welland.
CLOCKS, TIME
*International Business Machines Co., Limited, Toronto.
CLOCKS, WATCHMEN'S
*The Bennett & Wright Co., Ltd., Toronto, Ont.
CLOSET SEATS
*Goderich Organ Co., Goderich, Ont
CLOTHING
John W. Peck & Co., Ltd., Montreal. Que.
CLOTHING, leather and sheepskin lined coats
*A. R. Clarke & Co., Ltd., Toronto.
CLOTHING, Mackinaw
The Carss Mackinaw Clothing Co., Ltd., Orillia, Ont.
CLOTHES LINES, cotton
Hamilton Cotton Co., Hamilton Ont.
CLUTCHES
*Dodge Mfg. Co., Ltd., Toronto.
CLUTCHES, conveyors
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
COAL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
Standard Fuel Co., Toronto.
COAL CUTTERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
COBALT OXIDE
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.
The Coniagas Reduction Co., Ltd., St. Catharines, Ont.
COBALT METAL
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.
COFFEE
S. H. Ewing & Sons, Montreal

COLD DRAWN SHAPES, flats, squares and hexagons
*The Canadian Drawn Steel Co. Ltd., Hamilton, Ont.
*Union Drawn Steel Co., Limited Hamilton, Ont.

COLD STORAGE DOORS
John Hillock & Co., Ltd., Toronto

COLLAR BUTTONS
The Arlington Co. of Canada, Ltd. Toronto.

COLLARS
The Standard Shirt Co., Limited Montreal, Que.

COLLARS, coated linen
Parsons & Parsons Canadian Co., Hamilton, Ont.

COLLARS, shaft
Bond Engineering Co., Toronto.

COLORS
Brandram-Henderson, Limited Montreal, Que.
A. Ramsay & Son Co., Montreal

COMBS, fine dressing and name
The Arlington Co. of Canada, Ltd. Toronto.

COMMERCIAL STATIONERY
*Brown Bros., Ltd., Toronto.

CONCRETE COATINGS, PAINTS, ETC.
*Beveridge Paper Co., Ltd., Montreal.
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont
The Imperial Varnish & Color Co. Limited. Toronto.

CONDUITS FOR INTERIOR WIRING
*Condwits Company, Ltd., Toronto

CONDULET BOX FITTINGS
*Crouse-Hinds Co., Ltd., Toronto.

CONDULETS (Marine)
*Crouse-Hinds Co., Ltd., Toronto.

CONFECTIONERY
Ganong Bros., Ltd., St. Stephens N.B.
Moirs, Limited, Halifax, N.S.
The Montreal Biscuit Co., Montreal

CONTAINER BOARD—strong container
Bathurst Lumber Co., Ltd., Bathurst, N.B.

CONTRACTOR'S PLANT
*M. Beatty & Sons, Ltd., Welland
*Canadian Allis-Chalmers, Limited. Toronto.
Canadian Ingersoll-Rand Co., Sherbrooke, Que.

CONVEYORS
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.

COPPER
*Eugene F. Phillips, Electrical Works, Limited, Montreal.
*Booth-Coulter Copper & Brass Co. Limited. Toronto.
*Consolidated Mining & Smelting Co. of Canada, Limited, Toronto.

COPPER, SHEETS, PLATES, BARS, RODS
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

COPPER SHEETS AND PLATES
*Booth-Coulter Copper & Brass Co., Limited, Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Company, Limited, Montreal.

COPPERSMITHS
*Booth-Coulter Copper & Brass Co., Limited. Toronto.

COPPER TUBING, Seamless.
*Dominion Copper Products Company, Limited, Montreal.

COPPER TUBING, seamless
Canadian Seamless Wire Co., Ltd., Toronto.
*Booth-Coulter Copper & Brass Co., Limited, Toronto.

COPPER WIRE
Canadian Seamless Wire Co., Ltd., Toronto.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

CORKS
S. H. Ewing & Sons, Montreal, Que.

CORK CARPET
Dominion Oil Cloth Co., Ltd., Montreal, Que.

CORRUGATED PAPER BOXES
Adams Cellboard Co., Toronto.
Corrugated Paper Box Co., Ltd., Toronto.
*Hinde & Dauch Paper Co., Toronto.
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.

CORUNDUM, artificial
*Coralox, Limited, Hamilton, Ont.

CORSETS
Dominion Corset Co., Quebec, Que.

COTTONS
*Dominion Textile Co., Limited, Montreal, Que.
*Montreal Cottons, Ltd., Valleyfield, P.Q.

COTTONADES
Hamilton Cotton Co., Hamilton, Ont.

COUPLERS
*Canadian Steel Foundries, Ltd., Welland, Ont.

COUPLINGS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.

CRANES
*Northern Crane Works, Walkerville, Ont
*The Herbert Morris Crane and Hoist Co., Ltd., Niagara Falls.

CRANKSHAFTS
Canada Forge Co., Ltd., Welland
*The John Whitfield Company, Toronto, Ont.

CREAM CHEESE, Ingersoll
The Ingersoll Packing Co., Limited, Ingersoll, Ont.

CREAM SEPARATORS AND MILK CLARIFIERS
De Laval Dairy Supply Co., Peterboro, Ont.
The Renfrew Machinery Co., Ltd., Renfrew, Ont.

CREAMERY AND CHEESE FACTORY MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.

CREOSOTED MATERIALS
*The Barrett Co., Ltd., Toronto and Montreal.

CRUCIBLES, PLUMBAGO
Dominion Crucible Co., Limited, Montreal.

CRUSHED STONE
The Hagersville Contracting Co., Limited, Hagersville, Ont.

CUPOLAS
*Sheldons, Ltd., Galt, Ont.
*Northern Crane Works, Limited, Walkerville, Ont.

CUPS, presentation
Standard Silver Co., Toronto.

CURLED HAIR
*Delany and Pettit, Ltd., Toronto.

CURTAINS, chenille
Hamilton Cotton Co., Hamilton

CUTLERY
Standard Silver Co., Toronto.

CUTTERS, (Machine)
*Pratt & Whitney Co., Dundas.

DASHES, for buggy and carriages
*McKinnon Industries Limited, St. Catharines, Ont.

DECALCOMANIA TRANSFERS
Canada Decalcomania Co., Limited, Toronto.

DECK PLUGS (electric marine)
*Crouse-Hinds Co., Ltd., Toronto.

DENIMS
Hamilton Cotton Co., Hamilton.

DERAILS
*Canadian Hart Wheels, Limited, Hamilton, Ont.

DESIGNERS
Ontario Engraving Co., Hamilton

DESIGNERS and PRINTERS OF BOOKLETS, ETC.
Grip, Ltd., Toronto.

DESKS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

DESSICATED VEGETABLES
Grahams Limited, Belleville.

DINING ROOM SUITES
The George McLagan Furniture Co., Limited, Stratford, Ont.

DIES
*Butterfield & Co., Rock Island, P.Q.
*Pratt & Whitney Co., Dundas.
*John Whitfield Co., Toronto.

DISINFECTING APPARATUS
Spramotor Co., London, Ont.

DOOR HANGERS
*Richards Wilcox Canadian Co., Ltd., London, Ont.

DOUBLETREES
*McKinnon Industries Limited, St. Catharines, Ont.

DREDGES
*M. Beatty & Sons, Limited, Welland, Ont.

DRESSING, belt,
Sadler & Haworth, Montreal, Que.

DRESS AND CLOAK TRIMMINGS
J. Henry Peters Co., 1 Mincing St., Toronto.

DRIFT BOLT DRIVERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

DRILL PRESSES
*Canada Machinery Corporation, Limited, Galt, Ont.

DRILL SHARPENERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

DRILLS
*John Morrow Screw & Nut Co., Limited, Ingersoll, Ont.
*Pratt & Whitney Co., Dundas.

DRILLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

DRILLS, rock
*Canadian Ingersoll Rand Co., Montreal, Que.

DRIFT BOLTS OR SPIKES
London Rolling Mill Co., Limited, London, Ont.

DROP FORGINGS
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.

DROP HAMMERS
*Canada Machinery Corporation, Limited, Galt, Ont.

DRUMS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

DRY COLORS
P. D. Dods & Co., Ltd., Montreal.
The Imperial Varnish & Color Co., Limited, Toronto.
R. C. Jamieson & Co., Ltd., Montreal, Que.
Standard Paint & Varnish Co., Ltd., Windsor, Ont.

DUMB WAITERS
Turnbull Elevator Mfg. Co., Toronto.

DURABLE WIRE ROPE
The Dominion Wire Rope Co., Ltd., Montreal, Que.

DYNAMITE
Canadian Explosives, Limited, Montreal, Que.

DYNAMOS
Consolidated Electric Co., Limited, Toronto.
*Jones & Moore Electric Co., Ltd., Toronto.
*The Canadian Crocker-Wheeler Co., Limited, St. Catharines, Ont.

DYNAMOS, plating
*Jones & Moore Electric Co., Ltd., Toronto.

EIDERDOWN
Galt Knitting Co., Ltd., Galt.

ELECTRIC APPLIANCES
*Canadian Crocker-Wheeler Co., Limited, St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.

ELECTRIC APPLIANCES, fibre, all purposes
*Beveridge Paper Co., Limited, Montreal.

ELECTRICAL COMPOUNDS
Standard Paint Co. of Canada, Ltd., Montreal, Que.

ELECTRIC COOKING APPLIANCES
*Canadian General Electric Company, Ltd., Toronto.

ELECTRIC LAMPS
Packard Electric Co., Ltd., Toronto.

ELECTRIC PLATE WARE
Roden Bros., Ltd., Toronto.

ELECTRIC BRANDING TOOLS
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.

ELECTRIC RAILWAY EQUIPMENT
*Crouse-Hinds Co., Ltd., Toronto.

ELECTRODES, Carbon
Canadian National Carbon Co., Ltd., Toronto.

ELECTROPLATING
Central Press Agency, Toronto.

ELECTRICAL SUPPLIES
*Canadian General Electric Company, Ltd., Toronto.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
*Jones & Moore Electric Co., Ltd., Toronto.
*Northern Electric Co., Limited, Montreal, Que.

ELECTRIC SOLDERING IRON
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.

ELECTRO-SILVER PLATED WARE
Standard Silver Co., Toronto.

ELEVATING MACHINERY
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto.

ELEVATORS
*Jenckes Machine Co., Sherbrooke,
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
Turnbull Elevator Manufacturing Company, Toronto.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
*Northern Crane Works, Limited, Walkerville, Ont.

ELEVATORS FOR ALL PURPOSES
*The Waterous Engine Works Co., Limited, Brantford, Ont.

ELEVATOR GATES AND DOORS
Turnbull Elevator Mfg. Co., Ltd., Toronto.
*The A. B. Ormsby Co., Limited, Toronto.

ELEVATOR GUARDS
*The Geo. B. Meadows, Toronto Iron and Brass Goods Works Co., Limited, Toronto.
*Canada Wire and Iron Goods Co., Hamilton, Ont.

EMERY DRESSERS and STANDS
*Canadian Hart Wheels, Limited, Hamilton, Ont.

EMERY GRINDERS
*Canadian Hart Wheels, Limited, Hamilton, Ont.

EMERY WHEELS
*Canadian Hart Wheels, Limited Hamilton, Ont.

EMERY WHEEL GUARDS
*Canadian Hart Wheels, Limited, Hamilton, Ont.

ENAMELS
R. C. Jamieson & Co., Limited, Montreal, Que.
The Imperial Varnish & Color Co., Ltd., Toronto.

ENAMEL MANUFACTURERS AND DECORATORS
Standard Paint & Varnish Co., Ltd., Windsor, Ont.

ENAMEL AND TIN WARE
McClary Mfg. Co., London, Ont.

ENGINES
*E. Leonard & Sons, London, Ont.
*Goldie & McCulloch Co., Limited, Galt, Ont.
J. & R. Weir, Montreal, Que.
*Lauzon Engineering Limited, Levis, Que.
*Sheldons, Ltd., Galt, Ont.
*The Waterous Engine Works Co., Limited, Brantford, Ont.

ENGINES, gas and gasoline
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*Goold-Shapley-Muir Co., Limited, Brantford, Ont.
*Hamilton Motor Works Ltd., Hamilton.
*Massey-Harris Co., Ltd., Toronto.

ENGINES, gasoline, tractor, plowing and threshing
*Sawyer-Massey Co., Ltd., Hamilton, Ont.

ENGINES, hoisting
*M. Beatty & Sons, Welland, Ont.
*The Waterous Engine Works Co., Limited, Brantford, Ont.

ENGINES, Marine, Gasoline and Kerosine
Bruce, Stewart & Co., Ltd., Charlottetown, P.E.I.

ENGINES, steam plowing and threshing
Sawyer-Massey Co., Limited, Hamilton, Ont.

ELECTRICAL AND GAS FIXTURES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Limited, Toronto.
*Tallman Brass and Metal Co., Hamilton, Ont.

ELECTRIC HEATING APPLIANCES
*Canadian General Electric Company, Ltd., Toronto.

ENGRAVERS, PHOTO
Grip, Limited, Toronto.
Ontario Engraving Co., Hamilton.
The Mortimer Co., Ltd., Ottawa.

ENGRAVERS, half-tone
Grip, Limited, Toronto.
Ontario Engraving Co., Hamilton, Ont.

ENGRAVERS, wood
Ontario Engraving Co., Hamilton, Ont.

*For Display Advertisement see Index, Page 43

ENGRAVERS AND PRINTERS steel plate
American Bank Note Co., Ottawa, Ont.

ENGRAVERS AND PRINTERS banknote
American Bank Note Co., Ottawa.

ENGRAVING
*J L. Jones Engraving Company, Toronto.

ENGRAVING, copper and steel plate
Pritchard-Andrews Co. of Ottawa Limited, Ottawa, Ont.

ENSILAGE AND STRAW CUTTERS
J. Fleury's Sons, Aurora, Ont.
*Ontario Wind Engine & Pump Co. Ltd., Toronto.

EVAPORATED APPLES
Grahams Limited, Belleville.

ENVELOPES
Barber-Ellis Co., Ltd., Toronto.
Canada Envelope Co., Montreal Que.

EVENERS, for 2, 3, 4, 6 and 8 horses
*McKinnon Industries Limited, St. Catharines, Ont.

EXCELSIOR
*Delany & Pettit, Ltd., Toronto.

EXCELSIOR PADS
*Delany & Pettit, Ltd., Toronto.
Parmenter & Bulloch Co., Limited, Gananoque, Ont.

EXPERTS IN PATENT CAUSES
Ridout & Maybee, Toronto.

EXPLOSIVES, high
Canadian Explosives Ltd., Montreal.

FACE PLATE JAWS
Ker & Goodwin, Brantford, Ont.

FACTORY SUPPLIES, cheese and creamery
De Laval Dairy Supply Co., Ltd., Montreal, Que.

FANS
*Sheldons, Limited, Galt, Ont.
*The Canadian Blower & Forge Co., Limited, Kitchener, Ont.

FASTENERS, belt
*Sadler & Haworth, Montreal, Que.

FELTS, pulp and paper makers
Ayers Limited, Lachute Mills, P.Q.
*Beveridge Paper Co., Limited, Montreal.

FENCES AND GATES
*Dennis Wire & Iron Works Co., London, Ont.
*Canada Wire and Iron Goods Co., Hamilton, Ont.

FENCING AND GATES, woven wire
*Canada Wire and Iron Goods Co., Hamilton, Ont.

FENCING, wire
C. H. Johnson & Sons, Limited, Montreal, Que.

FENDERS, for buggy and carriages
*McKinnon Industries Limited, St. Catharines, Ont.

FIBRE PAILS
*The E. B. Eddy Co., Ltd., Hull, Que.

FIBRE, VULCANIZED, hard and flexible
*Beveridge Paper Co., Limited, Montreal.

FILES
Henry Disston & Sons, Limited, Toronto.
*The Nicholson File Co., Port Hope.

FILING CABINETS
*Office Specialty Co., Newmarket.

FILING EQUIPMENT, wood & steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

FILING SYSTEMS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

FILTER PAPERS
*Beveridge Paper Co., Limited, Montreal.

FIRE ALARMS
*Northern Electric Co., Limited, Montreal, Que.

FIRE BRICK
Dominion Fire Brick and Clay Products, Ltd., Moose Jaw

FIRE BRICK AND CEMENT
*Beveridge Paper Co., Ltd., Montreal.

FIRE BRICK AND CLAY
The Dominion Fire Brick and Clay Products, Ltd., Moose Jaw, Sask.

FIRE BRICK, JOINTLESS
*Beveridge Paper Co., Ltd., Montreal.

FIRECLAY
*Jas. W. Foley & Co., St. John, N.B.

FIRE DOOR HARDWARE
*Richards Wilcox Canadian Co., Limited, London, Ont.

FIRE DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People Limited, Oshawa.

FIRE ENGINES
Waterous Engine Works Co., Limited, Brantford, Ont.

FIRE ESCAPES
*Canada Wire and Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto.

FIRE EXTINGUISHERS
*A. B. Ormsby Co., Ltd., Toronto.
*Booth-Coulter Copper and Brass Co., Limited, Montreal, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.

FIRE FIGHTING APPARATUS
*The Waterous Engine Works Co., Limited, Brantford, Ont.

FIRE HOSE
*Canadian Consolidated Rubber Co., of Canada, Limited, Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha and Rubber, Ltd., Toronto.

FIRE PREVENTION MATERIAL
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*Eureka Mineral Wool & Asbestos Co., Toronto.
*The Bennett & Wright Co., Ltd., Toronto, Ont.

FIRE PROOF WINDOWS AND DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont.

FIRE SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy Mansell Co., Toronto.
*H. G. Vogel Co., Montreal, Que.

FIRE AND WATER DEPARTMENT SUPPLIES
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
The Garth Co., Montreal, Que.

FISH, Atlantic Sea-Foods
Maritime Fish Corporation Ltd., Montreal, Que.

FITTINGS FOR SOIL PIPE
Anthes Foundry, Ltd., Toronto.

FITTINGS, steam
Warden King, Ltd., Montreal, Que.

FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.

FLAGS
*Scythes & Co., Limited, Toronto.

FLANGES, for wheels
*McKinnon Industries Limited, St. Catharines, Ont.

FLOODLIGHTS (electric)
*Crouse-Hinds Co., Ltd., Toronto.

FLOORING, hardwood
Seaman Kent Co., Ltd., Meaford, Ont.

FLOUR MILL MACHINERY
*Canadian Allis-Chalmers, Limited, Toronto.

FLUE LINERS
Standard Clay Products, Ltd., St. Johns, Que.

FORGES
*Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
*Sheldons, Limited, Galt, Ont.

FORGINGS
Canada Forge Co., Ltd., Welland.
*The Steel Co. of Canada, Limited, Hamilton, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.
*The John Whitfield Company, Toronto, Ont.

FORGINGS, drop
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*Dominion Forge and Stamping Co., Walkerville, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.

FOUNDRY EQUIPMENT
*Northern Crane Works, Limited, Walkerville, Ont.

FOUNTAIN FRUITS and Juices
J. J. McLaughlin, Ltd., Toronto.

FOUNTAINS, drinking
*Mueller Mfg. Co., Ltd., Sarnia.

FRICTION CLUTCH PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.

FROGS AND CROSSINGS, manganese
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.

FUEL
Standard Fuel Co., Toronto.

FUR GARMENTS, men's and women's
Holt, Renfrew, Ltd., Quebec.

FUR GOODS
John W. Peak & Co., Limited. Montreal, Que.

FUR TRIMMINGS, ornaments and buttons
J. Henry Peters Co., 1 Mincing St., Toronto.

FURNACES
McClary Mfg. Co., London, Ont.
The Jas. Smart Mfg. Co., Limited, Brockville, Ont.

FURNITURE, hall
The George McLagan Furniture Co., Limited, Stratford, Ont.

FURNITURE, office
The Canadian Office and School Furniture Co., Ltd., Preston, Ont.

FURNITURE, reed and rattan
Imperial Rattan Co., Ltd., Stratford, Ont.

FUSE BOXES
*Crouse-Hinds Co., Ltd., Toronto.

FUSE PLUGS AND FUSES, refillable
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.

FUSES
*Economy Fuse and Mfg. Co., Montreal.

GALVANIZED IRON
*A. C. Leslie & Co., Montreal.

GALVANIZED SHEETS
*Dominion Sheet Metal Co., Hamilton, Ont.
*The A. B. Ormsby Co., Limited, Toronto.

GALVANIZERS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*Ontario Wind Engine and Pump Co., Limited, Toronto.
*The Pedlar People, Ltd., Oshawa.
*McKinnon Industries Limited, St. Catharines, Ont.

GASOLINE ENGINES
*Ontario Wind & Pump Co., Ltd., Toronto.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.

GASOLINE FIRE ENGINES
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

GASOLINE STORAGE SYSTEMS, special underground
S. F. Bowser & Co., Toronto.
*Steel Trough and Machine Co., Ltd., Tweed, Ont.

GASOLINE
*The Imperial Oil Co., Limited, Toronto.

GAUGES
*Brown Engineering Corporation, Toronto.
*John Whitfield Co., Toronto.

GEARS, cut
*Brown Engineering Corporation, Toronto.
*Hamilton Gear & Machine, Toronto.
*Winnipeg Gear & Engineering Co., Ltd., Winnipeg.
*The John Whitfield Company, Toronto, Ont.

GEARS, noiseless fibre, also reinforced
*Beveridge Paper Co., Limited, Montreal.

GELATINE
Canada Gelatine Co., Ltd., Brantford.

GENERATORS
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.

GENERATORS, electric
*Canadian General Electric Company, Ltd., Toronto.

GILDING METAL.
*Dominion Copper Products Company, Limited, Montreal.

GLASSWARE
Dominion Glass Co., Limited, Montreal, Que.

GLASSWARE, cut
Roden Bros., Ltd., Toronto.

GLASS FOR BUILDINGS
Toronto Plate Glass Importing Co., Limited, Toronto.

GLASS BENDERS
Toronto Plate Glass Importing Co., Limited, Toronto.

GLASS, mirror
Toronto Plate Glass Importing Co., Limited, Toronto.

GLOVES AND MITTS
*A R. Clarke & Co., Ltd., Toronto.
Craig, Cowan Co., Ltd., Toronto.

GLUE
Canada Glue Co., Ltd., Brantford.
*Delany and Pettit, Ltd., Toronto.

GOLD-FILLED WIRE AND PLATE
Canadian Seamless Wire Co., Toronto.

GOLD AND SILVER REFINERS
Canadian Seamless Wire Co., Toronto.

GRAIN CRUSHERS (Rapid Easy)
J. Fleury's Sons, Aurora, Ont.

GRAPE JUICE
J. J. McLaughlin, Ltd., Toronto.
The Welch Co., Ltd., St. Catharines.

GRATES
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

GRAVITY CARRIERS
*Canadian Mathews Gravity Carrier Co., Toronto.

GREASES
*Dominion Oil Co., Ltd., Hamilton.

GRILLES, metal
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.

GRINDER, bench
Bond Engineering Co., Toronto.

GRINDERS, portable
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

GRINDERS, Pedestal and Bench
*Canadian Hart Wheels, Limited, Hamilton, Ont.

GRINDING and Polishing Machinery
*Canadian Hart Wheels, Limited, Hamilton, Ont.

GRINDING WHEELS
*Canadian Hart Wheels, Limited, Hamilton, Ont.
*The Dominion Abrasive Wheel Co., Limited, New Toronto.

GRINDSTONES
*Richards-Wilcox Canadian Co., Limited, London, Ont.

GUARDS (Conduiet)
*Crouse-Hinds Co., Ltd., Toronto.

GUNN SECTIONAL BOOKCASES
The Geo. McLagan Furniture Co., Limited, Stratford, Ont.

GUY ANCHORS
B. J. Coghlin Co., Ltd., Montreal.

GUY RODS
*Crouse-Hinds Co., Ltd., Toronto.

GYPSUM, crushed
*Albert Mfg. Co., Hillsborough, N.B.

GYPSUM PRODUCTS
*Manitoba Gypsum Co., Ltd., Winnipeg, Man.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.

HACK SAW BLADES and FRAMES
*E. C. Atkins & Co., Inc., Hamilton, Ont.

HACK SAW MACHINES
*E. C. Atkins & Co., Inc., Hamilton, Ont.

HALL FURNITURE
The Geo. McLagan Furniture Co., Limited, Stratford, Ont.

HAMS
F. W. Fearman Co., Ltd., Hamilton, Ont.

HAMES, steel and iron
*McKinnon Industries Limited, St. Catharines, Ont.

HANDLES (Axe, pick, sledge hammers, etc.)
The Lachute Shuttle Co., Limited, Lachute Mills, P.Q.

HANDLES, wood
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
*Toy Products Ltd., Farm Point, P.Q.

HAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

HANGERS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

*For Display Advertisement see Index, Page 43

HARDWARE
*Richards-Wilcox Canadian Co., Limited, London, Ont.
Taylor-Forbes Co., Limited, Guelph.
The Jas. Smart Mfg. Co., Limited, Brockville, Ont.

HARDWOOD FLOORING
*Beveridge Paper Co., Ltd., Montreal.

HARNESS
Lamontagne Ltd., Montreal, Que.

HATS, men's straw
The Crown Hat Co., Limited, Galt, Ont.

HARNESS HARDWARE
*McKinnon Industries Limited, St. Catharines, Ont.

HATS, ladies' and children's straw
The Crown Hat Co., Limited, Galt, Ont.

HATS, ladies' and children's felt and beaver
The Crown Hat Co., Limited, Galt, Ont.

HATS, ladies' felt and straw
Toronto Hat Mfg. Co., Toronto.

HAULAGE, Wire Rope
The Dominion Wire Rope Co., Ltd., Montreal, Que.

HEADING SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

HEADLIGHT (electric)
*Crouse-Hinds Co., Ltd., Toronto.

HEATERS
*Waterous Engine Works Co., Ltd., Brantford, Ont.

HEATERS, feed water
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

HEATING APPLIANCES
*C. A. Dunham Co., Ltd., Toronto.
*Sheldons, Limited, Galt, Ont.
*The Canadian Blower & Forge Co., Limited, Kitchener, Ont.

HEATING SYSTEMS
*C. A. Dunham Co., Ltd., Toronto.

HEMLOCK, union and oak sole
Breithaupt Leather Co., Ltd., Kitchener, Ont.

HESSIANS
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Limited, Toronto.

HINGES
*The Steel Co. of Canada, Limited, Hamilton, Ont.

HOISTS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Limited, Walkerville, Ont.

HOISTS, electric and pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Limited, Walkerville, Ont.

HOISTING MACHINERY
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Limited, Walkerville, Ont.

HOOKS, for logging chains
*McKinnon Industries Limited, St. Catharines, Ont.

HOSE, fire
*Canadian Consolidated Rubber Co., Limited, Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd., Toronto.

HOSE, half, Imperial
Kingston Hosiery Co., Ltd., Kingston, Ont.

HOSE, rubber
*Canadian Consolidated Rubber Co., Limited, Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Limited.

HUB CAPS
*McKinnon Industries Limited, St. Catharines, Ont.

HUBS, for Ford cars
*McKinnon Industries Limited, St. Catharines, Ont.

HYDRAULIC PRESSES
*Bawden Machine Co., Limited, Toronto.
*William R. Perrin, Ltd., Toronto.

HYDRO ELECTRIC PLANTS
*Canadian Allis-Chalmers, Limited, Toronto.

ICE CREEPERS
Parmenter & Bulloch Co., Limited, Gananoque, Ont.

ICE-MAKING MACHINERY
The Linde Canadian Refrigeration Co., Limited, Montreal, Que.

INCUBATORS & BROODERS
Lee Mfg. Co., Ltd., Pembroke, Ont.

INGOT METALS
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

INSERTED TOOTH SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

INSULATING COMPOUNDS
The Imperial Varnish & Color Co., Ltd., Toronto.

INSULATING PAPER AND FIBRE
*Beveridge Paper Co., Limited, Montreal.

INSULATORS
*Crouse-Hinds Co., Ltd., Toronto.

INTERLOCKING RUBBER TILING
*Gutta Percha & Rubber Mfg. Co., of Toronto, Limited, Toronto.

INVERTS
Standard Clay Products, Ltd., St Johns, Que.

IRON
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.

IRON, refined bar
Starr Mfg. Co., Ltd., Dartmouth, N.S.

IRON AND STEEL BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Limited, Hamilton, Ont.

IRON STAIRWAYS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto.

IRONWORK, architectural
*Canadian Allis-Chalmers, Limited, Toronto.
*Canada Wire & Iron Goods Co., Hamilton, Ont.

IRONWORK, ornamental
*Canada Wire & Iron Goods Co., Hamilton, Ont.

IRON, LEAD AND PUTTY
A. R. Whittall, Montreal, Que.

IRON PUMPS
*Medicine Hat Pump & Brass Mfg. Co., Medicine Hat, Alta.

JACKS
*Globe Engineering Co., Limited, Hamilton, Ont.

JAM, canned goods, etc.
E. D. Smith & Son, Limited.

JAPANS, enamels, etc.
A. Muirhead Co., Ltd., Toronto.
The Imperial Varnish & Color Co., Ltd., Toronto.

JIGS AND TOOLS
*Brown Engineering Corporation, Toronto.

JOINTERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

JELLY POWDER
S. H. Ewing & Sons, Montreal

JEWELRY, enamelled souvenir
Caron Bros., Montreal, Que.

JEWELRY, gold-filled
Caron Bros., Montreal, Que.

JOIST HANGERS
*Richards-Wilcox Canadian Co., Limited, London, Ont.

JUNCTION BOXES, cable
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

KELSEY WARM AIR GENERATOR
The Jas. Smart Mfg. Co., Limited, Brockville, Ont.

KILNS
*Sheldons, Limited, Galt, Ont.

KINDLING
Standard Fuel Co., Toronto.

KNIFE GRINDERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*W. H. Banfield & Sons, Toronto.

KNITTED GOODS
*Penman's, Limited, Paris, Ont.

KNIVES
*Galt Knife Co., Ltd.
*The Peter Hay Knife Co., Limited, Galt, Ont.
Simonds Canada Saw Co., Limited, Montreal, Que.

KNIVES, pulp and paper
Henry Disston and Sons, Toronto.
*The Peter Hay Knife Co., Limited, Galt, Ont.

KODAKS AND PHOTOGRAPHIC SUPPLIES
Canadian Kodak Co., Ltd., Toronto

LABELS
Lawson & Jones, Ltd., London, Ont.

LABELS, lithographed
Harris Lithographing Company, Limited, Toronto.

LACE LEATHER
F. C. McCordick, St. Catharines, Ont.
*Sadler & Haworth, Montreal, Que
*The D. K. McLaren Belting Co., Limited, Montreal, Que.
*The J. C. McLaren Belting Co., Limited, Montreal, Que.

LADDERS
Stratford Mfg. Co., Ltd., Stratford, Ont.

LADDERS, step.
*Otterville Mfg. Co., Ltd., Otterville, Ont.

LADLES, foundry
*Northern Crane Works, Limited, Walkerville, Ont.

LAMP GLOBES
*Crouse-Hinds Co., Ltd., Toronto.

LARD
F. W. Fearman Co., Ltd., Hamilton, Ont.

LATH
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.

LATHE CHUCKS
Ker & Goodwin, Brantford, Ont.

LATHE-DOGS
Canadian Billings & Spencer, Ltd., Welland, Ont.

LATHES
*Canada Machinery Corporation, Limited, Galt, Ont.

LAUNCHES
Peterboro Canoe Co., Ltd., Peterboro, Ont.

LAWN MOWERS
Taylor-Forbes Co., Limited, Guelph, Ont.

LAWN SWINGS
Stratford Mfg. Co., Ltd., Stratford, Ont.

LAVATORIES, enameled
Amherst Foundry Co., Limited, Amherst, N.S.

LAUNDRY SINKS
Amherst Foundry Co., Limited, Amherst, N.S.

LEAD
*Consolidated Mining & Smelting Co. of Canada, Limited, Toronto.

LEAD GRINDERS
Benjamin Moore & Co., Limited, Toronto.

LEAD SHEET
Toronto Plate Glass Importing Co., Limited, Toronto.

LEAD PIPE
*The Steel Co. of Canada, Limited, Hamilton, Ont.
Toronto Plate Glass Importing Co., Limited, Toronto.
*The Canada Metal Co., Toronto.

LEATHER
The Robson Leather Co., Limited, Oshawa, Ont.

LEATHER, bookbinders'
Clarke & Clarke, Ltd., Toronto.

LEATHER DASHES AND FENDERS
*McKinnon Industries Limited, St. Catharines, Ont.

LEATHER, fancy
Clarke & Clarke, Ltd., Toronto.

LEATHER GOODS
Lamontagne, Ltd., Montreal, Que.

LEATHER, hemlock, union and oak sole
The Breithaupt Leather Co., Ltd., Kitchener, Ont.

LEATHER, patent colt and side leather
*A. R. Clarke & Co., Ltd., Toronto.

LEATHER, sheep skin, etc.
Clarke & Clarke, Ltd., Toronto.

LEATHER, upholstering
Clarke & Clarke, Ltd., Toronto.

LEATHER, upper
A. Davis & Son, Ltd., Kingston
King Brothers Company, Limited, Whitby, Ont.

LIGHTS (marine, side and port)
*Crouse-Hinds Co., Ltd., Toronto.

LINK BELT, Ewart, and sawmill riveted
*Canadian Link-Belt Co., Toronto.

LINK BELTING
*The Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

LINOLEUM
Dominion Oil Cloth Co., Limited, Montreal, Que.

LITHOGRAPHED BUSINESS STATIONERY
Business Systems, Ltd., Toronto.

LITHOGRAPHED TIN WARE
*MacDonald Mfg. Co., Limited, Toronto.

LITHOGRAPHERS
American Bank Note Company, Ottawa, Ont.
Harris Lithographing Company, Limited, Toronto.
The Mortimer Co., Ltd., Ottawa.

LOCKERS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*Geo. B. Meadows, Wire, Iron and Brass Works Co., Toronto.

LOCOMOTIVE BLOCKS
Standard Clay Products, Limited, St. Johns, Que.

LOCOMOTIVES, industrial
*Montreal Locomotive Works, Ltd., Montreal, Que.

LOCOMOTIVE & MARINE BRASS WORKS
The James Morrison Brass Mfg. Co., Limited, Toronto.

LOGGING CHAIN HOOKS
*McKinnon Industries Limited, St. Catharines, Ont.

LOOSE LEAF, BINDERS AND FORMS
Business Systems, Ltd., Toronto.

LOOSE LEAF SYSTEMS
Copeland-Chatterson Co., Limited, Brampton, Ont.

LOOSE LEAF SUPPLIES
The Esdale Press, Ltd., Edmonton.

LUBRICATORS, steam sight feed
Penberthy Injector Co., Limited, Windsor, Ont.

LUGS, for silos and water tanks
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.

LUMBER
*Brown Corporation, La Tuque, Que.
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
G. & J. Esplen, Montreal, Que.

LUMBER, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.

LUMBER, spruce and pine, cedar railway ties and shingles
Bathurst Lumber Co., Ltd., Bathurst, N.B.

LUMBERING BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.

LUMBER, red pine and spruce
Gillies Bros., Ltd., Braeside, Ont.

LUMBER, spruce, fir, larch and cedar
Fernie Lumber Co., Ltd., Fernie, B.C.

LUMBER, white pine
Gillies Bros., Ltd., Braeside, Ont.

MACHINE KNIVES
*Galt Knife Co., Ltd.
*E. C. Atkins & Co., Inc., Hamilton, Ont.
Henry Disston and Sons, Toronto

MACHINE TOOLS
*Canada Machinery Corporation, Limited, Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
*United Brass & Lead, Ltd., Toronto

MACHINE WORK, special
*United Brass & Lead, Ltd., Toronto

MACHINE WORK, special and repairs
*Canadian Rumely Co., Limited, Toronto, Ont.
*The John Whitfield Company, Toronto, Ont.

MACHINERY AND UTENSILS FOR BAKERS
Fletcher Mfg. Co., Ltd., Toronto.

MACHINERY AND UTENSILS FOR CANDY
Fletcher Mfg. Co., Ltd., Toronto.

*For Display Advertisement see Index, Page 43

MACHINERY AND UTENSILS FOR ICE CREAM
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY, conveying
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Limited, Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, flour mill
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd. Galt, Ont.
MACHINERY, grinding
*Canadian Hart Wheels, Limited Hamilton, Ont.
MACHINERY, hoisting, etc.
*Polson Iron Works, Limited, Toronto.
J. & R. Weir, Montreal, Que.
*M. Beatty & Sons, Ltd., Welland
*Northern Crane Works, Limited Walkerville, Ont.
MACHINERY, ice cream
J. J. McLaughlin, Ltd. Toronto.
MACHINERY, iron working
*Canada Machinery Corporation, Limited, Galt, Ont.
*John Bertram & Sons Co., Ltd. Dundas, Ont.
MACHINERY, pulp mill
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*The Waterous Engine Works Co., Limited. Brantford. Ont.
MACHINERY, punching and shearing.
*Canada Machinery Corporation Limited, Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas. Ont.
MACHINERY, railroad and car-shop
*Canada Machinery Corporation Limited, Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd. Montreal, Que.
*John Bertram & Sons Co., Ltd. Dundas. Ont.
MACHINERY, roadmaking
Canadian Ingersoll-Rand Co., Ltd., Sherbrooks, Que.
Sawyer-Massey Co., Limited, Hamilton, Ont.
*The Waterous Engine Works Co. Limited, Brantford, Ont.
MACHINERY, sawmill
The E. Long Mfg. Co., Limited Orillia, Ont.
P. Payette & Co., Pentanguishene
*The Waterous Engine Works Co. Limited, Brantford, Ont.
*Yates, P. B., Machine Co., Ltd. Hamilton, Ont.
MACHINERY, sheet metal working
Brown, Boggs Co., Ltd., Hamilton
*Canada Machinery Corporation Limited, Galt, Ont.
MACHINERY, special
Bawden Machine Co., Limited, Toronto.
*The John Whitfield Company, Toronto, Ont.
MACHINERY, transmission
*Canadian Bond Hanger and Coupling Co., Ltd., Alexandria, Ont.
*Dodge Mfg. Co., Ltd., Toronto.
*Goldie & McCulloch Co., Limited. Galt. Ont.
MACHINERY, woodworking
*Canada Machinery Corporation, Limited, Galt, Ont.
*Yates, P. B., Machine Co., Ltd., Hamilton, Ont.
Preston Woodworking Machinery Co., Ltd., Preston.
*The Waterous Engine Works Co., Limited. Brantford, Ont.
MACHINE WORK, special and repairs
*Canadian Rumely Co., Ltd., Toronto, Ont.
*John Whitfield Co., Toronto, Ont.
MACHINE WRENCHES
*Canadian Billings & Spencer, Ltd., Welland, Ont.
MACHINES, painting
Spramotor Co., London, Ont.
MAGNESITE
Canadian Carbonate Co., Montreal
MALT
*Hiram Walker & Sons, Limited, Walkerville, Ont.
MALLEABLE, for carriages
*McKinnon Industries Limited, St. Catharines, Ont.
MALLEABLE IRON CASTINGS
*McKinnon Industries Limited, St. Catharines, Ont.

MAPLE PRODUCTS
*Maples, Limited, Toronto.
MARTINGALE RINGS AND SLIDE LOOPS
The Arlington Co. of Canada, Ltd., Toronto.
MATCHERS
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
MATCHES
*The E. B. Eddy Co., Ltd., Hull.
MECHANICAL STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto.
MEDICINES, patented and pharmaceutical
Dr. Ed. Morin & Cie., Ltd., Quebec.
METAL, babbitt
*Canada Metal Co., Toronto.
*Tallman Brass and Metal Co., Hamilton, Ont.
Alonzo W. Spooner, Limited, Port Hope, Ont.
METAL CEILINGS
*The Pedlar People Limited, Oshawa.
*The A. B. Ormsby Co., Limited, Toronto.
METAL LATH
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont
*The Pedlar People Limited, Oshawa.
METAL PACKING
*Garlock Packing Company, Hamilton, Ont.
METAL, spinning and stamping
The Booth-Coulter Copper and Brass Co., Limited, Toronto.
METAL SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
METAL SHINGLES
*The Pedlar People, Limited, Oshawa.
*The A. B. Ormsby Co., Limited, Toronto.
METAL STAMPINGS
Canadian Cartridge Co., Ltd., Hamilton, Ont.
METERS, water
Canadian Cartridge Co., Ltd., Hamilton, Ont.
MILK DEALERS' MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd. Peterboro, Ont.
MILLBOARD, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.
MILLING CUTTERS
Pratt and Whitney Company of Canada, Dundas, Ont.
MINING MACHINERY
*Canadian Allis-Chalmers, Limited Toronto.
MITTS AND GLOVES (Indian, tan red deerskins)
Holt, Renfrew Ltd., Quebec, Que.
A. R. Clarke & Co., Ltd., Toronto.
MIXERS, chocolate, dough and paint
Fletcher Mfg. Co., Ltd., Toronto.
MOCCASINS AND SLIPPERS (Indian tanned leathers)
Holt, Renfrew Ltd., Quebec, Que.
MORTISERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd. Hamilton, Ont.
MOTOR CARS
*Ford Co. of Canada, Ford, Ont.
MOTORS, electric
*Canadian General Electric Company, Ltd., Toronto.
MOTORS, electric (alternating current)
*Canadian Westinghouse Co., Ltd. Hamilton, Ont.
Consolidated Electric Co., Limited Toronto.
*Jones & Moore Electric Co., Ltd. Toronto.
*Canadian Crocker-Wheeler Co. Ltd., St. Catharines, Ont.
*T. & H. Electric Co., Hamilton. Georgetown, Ont.
MOTORS, electric (direct current)
*Canadian Westinghouse Co., Ltd. Hamilton, Ont.
Consolidated Electric Co., Limited Toronto.
*Jones & Moore Electric Co., Ltd Toronto.
*T. & H. Electric Co., Hamilton.
MOTORS, electric (repairing)
Consolidated Electric Co., Limited, Toronto.
*T. & H. Electric Co., Hamilton.

MOTORS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
MOULDERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
NAILS
*The Steel Co. of Canada, Limited, Hamilton, Ont.
NAILS, copper
Parmenter and Bulloch Co., Ltd., Gananoque, Ont.
NAILS, wire
Parmenter and Bulloch Co., Ltd., Gananoque, Ont.
The Graham Nail Works, Toronto.
NAPHTHA
*The Imperial Oil Co., Limited, Toronto.
NECKYOKES
*McKinnon Industries Limited, St. Catharines, Ont.
NICKEL OXIDE
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.
Coniagas Reduction Co., Limited, St. Catharines. Ont.
NICKEL METAL
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.
NIPPLES, for radiators
*McKinnon Industries Limited, St. Catharines, Ont.
NUTS
*John Morrow Screw & Nut Co., Limited, Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Limited, Hamilton, Ont.
*United Brass & Lead, Ltd., Toronto
OAKUM, plumbers, Canadian Navy
Factory Waste and Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto.
OARLOCKS
*McKinnon Industries Limited, St. Catharines, Ont.
OAT CRUSHERS AND FLAKERS
J Fleury's Sons, Aurora, Ont.
OFFICE DESKS
*Goderich Organ Co., Goderich.
OFFICE EQUIPMENT
*Office Specialty Co., Newmarket,
OFFICE FURNITURE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
OILS
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal.
Sherwin-Williams Co. of Canada, Limited. Montreal. Que.
OIL FILTRATION AND CIRCULATING SYSTEMS
S. F. Bowser & Co., Toronto.
OIL STORAGE SYSTEMS, self-measuring
S. F. Bowser & Co., Toronto.
OIL COMPANIES
*Canadian Oil Cos., Toronto.
Commercial Oil Co., Ltd., Hamilton.
*Imperial Oil Co., Toronto.
OILS (Petroleum products)
*British American Oil Co., Limited, Toronto.
*Dominion Oil Co., Ltd., Hamilton.
*The Imperial Oil Co., Toronto.
OILS, road
*The Barrett Co., Ltd., Toronto and Montreal.
OIL HOLE COVERS
*Canadian Winkley Co., Limited, Windsor, Ont.
OIL CUPS, both screw top and hinge lid
*Canadian Winkley Co., Limited, Windsor, Ont.
OILCLOTHS, floor and table
Dominion Oil Cloth Co., Limited Montreal, Que.
ORGANS
*Goderich Organ Co., Goderich Ont.
Karn-Morris Piano and Organ Co., Ltd., Woodstock, Ont.
ORGANS, pipe
Casavant Freres, St. Hyacinthe, Que.
Karn-Morris Piano and Organ Co., Ltd., Woodstock, Ont.
ORGANS, parlor
*Goderich Organ Co., Goderich, Ont
ORNAMENTAL IRON WORK
*Canada Wire & Iron Goods Co. Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*The Geo. B. Meadows, Toronto Iron and Brass Goods Works Co., Limited, Toronto.
*McGregor & McIntyre, Ltd., Toronto.
OVERALLS
Peerless Overall Co., Rock Island, Que.
Walker Pant and Shirt Co., Walkerville and Chatham, Ont.
The Standard Shirt Co., Limited, Montreal, Que.
OVERCOATINGS
Rosamond Woollen Co., Almonte, Ont.
OVERHEAD RUNWAYS
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*Richards-Wilcox Canadian Co., Limited, London, Ont.
OXY-ACETYLENE WELDING
*L'Air Liquide Society, Montreal.
*The Prest-O-Lite Co., Inc., Toronto.
OXYGEN
*L'Air Liquide Society, Montreal.
PACKERS, parchment papers, discs, shavings
*Beveridge Paper Co., Limited, Montreal.
PACKING BOXES
Barchard & Co., Limited, Toronto.
PACKING, engine
Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Garlock Packing Co., Hamilton.
PACKING, rubber
*Canadian Consolidated Rubber Co., Limited, Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Limited.
Jenkins Bros., Ltd., Montreal, Que.
PAILS AND TUBS, wooden
The C. Beck Mfg. Co., Limited, Penetanguishene, Ont.
PAINTERS' SUPPLIES
A. Muirhead Co., Ltd., Toronto.
PAINTS
R. C. Jamieson & Co., Limited. Montreal, Que.
PAINTS and VARNISHES
A. Muirhead Co., Ltd., Toronto.
Benjamin Moore & Co., Limited, Toronto.
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
The Imperial Varnish & Color Co., Limited, Toronto.
The Staneland Co., Ltd., Victoria, B.C.
A. Ramsay & Sons Co., Montreal, Que.
Standard Paint Co. of Canada, Limited, Montreal, Que.
PAINTS, barn and bridge
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
PAINTS, preservative
Standard Paint Co. of Canada, Limited, Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.
PANELBOARDS
*Crouse-Hinds Co., Ltd., Toronto.
PAPER BAGS
*Beveridge Paper Co., Limited, Montreal.
PAPER, book
Barber Paper & Coating Mills, Ltd., Georgetown, Ont.
PAPER BOXES
King Paper Box Co., Ltd., Montreal, Que.
*Rudd Paper Box Co., Limited. Toronto.
PAPER, coated, book and label
*Provincial Paper Mills, Limited, Georgetown, Ont.
PAPER, coated box board
*Provincial Paper Mills, Limited, Georgetown, Ont.
PAPER, coated cover
*Provincial Paper Mills, Limited, Georgetown, Ont.
PAPER, envelope
Provincial Paper Mills Limited, Georgetown, Ont.
The Toronto Paper Manufacturing Co., Cornwall, Ont.
PAPER, enamelled blotting
*Provincial Paper Mills, Limited
PAPER, kraft and all wrappings, printings and specialities
*Beveridge Paper Co., Limited, Montreal.

*For Display Advertisement see Index, Page 43

PAPER, label
*Provincial Paper Mills, Limited Georgetown, Ont.
PAPER, ledger
*Howard Smith Paper Mills, Ltd., Montreal.
*Rolland Paper Co., Limited, Montreal, Que.
The Toronto Paper Manufacturing Co., Cornwall, Ont.
PAPERBOARDS
*Canada Boxboard Co., Limited, Montreal, Que.
PAPER, super-book
The Toronto Paper Manufacturing Co., Cornwall, Ont.
PAPER, wall
Stauntons, Ltd., Toronto.
PAPER, Waxed
Business Systems, Ltd., Toronto.
PAPER, writing
The Toronto Paper Manufacturing Co., Cornwall, Ont.
Howard Smith Paper Mills, Limited, Montreal.
*Rolland Paper Co., Limited, Montreal, Que.
PAPERS, bond
*Howard Smith Paper Mills, Ltd Montreal.
*Rolland Paper Co., Ltd., Montreal
PAPERS, building
Bathurst Lumber Co., Ltd., Bathurst, N.B.
*The Riordon Pulp and Paper Co., Montreal, Que.
Standard Paint Co. of Canada, Ltd., Montreal, Que.
PARK SEATS
Stratford Mfg. Co., Ltd., Stratford, Ont.
PARLOR SUNDRIES
The Geo. McLagan Furniture Co., Limited, Stratford, Ont.
PATENTS
Fetherstonhaugh & Co., Toronto.
Ridout and Maybee, Toronto.
*Harold C. Shipman & Co., Ottawa.
PATENT LITIGATION
Ridout and Maybee, Toronto.
*Harold C. Shipman & Co., Ottawa.
PATTERN MAKERS' BRASS DOWEL PINS
*Canadian Winkley Co., Limited, Windsor, Ont.
PAY ROLL AUDITS
*International Business Machines, Limited, Toronto.
PERFORATED METALS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
PERFORATED MUSIC ROLLS
The Otto Higel Co., Ltd., Toronto.
PERFUMES AND TOILET PREPARATIONS
Sovereign Perfumes Ltd., Toronto.
PETROLEUM PRODUCTS
*The Imperial Oil Co., Limited, Toronto.
PHOTOMAILERS
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
PIANOS
Dominion Organ & Piano Co., Ltd., Bowmanville, Ont.
*Gourlay, Winter and Leeming, Toronto.
Karn-Morris Piano and Organ Co., Limited, Woodstock, Ont.
PIANO ACTIONS
The Otto Higel Co., Ltd., Toronto.
PIANO KEYS
The Otto Higel Co., Ltd., Toronto.
PIANOS, player
*Gourlay, Winter and Leeming, Toronto.
Karn-Morris Piano and Organ Co., Limited, Woodstock, Ont.
PIANO, player actions
The Otto Higel Co., Ltd., Toronto.
PIANO STOOLS and BENCHES
*Goderich Organ Co., Goderich, Ont.
PIG IRON
*The Steel Co. of Canada, Limited, Hamilton, Ont.
M. A. Hanna & Co., Toronto.
PINS, society, emblems and badges
Caron Bros., Montreal, Que.
PIPE, cast iron, for water and gas
National Iron Works, Ltd., Toronto.
PIPE COUPLINGS
*The Steel Co. of Canada, Limited, Hamilton, Ont.
PIPE COVERINGS
*Eureka Mineral Wood & Asbestos Co., Toronto.
PIPE ORGANS
Karn-Morris Piano and Organ Co., Limited, Woodstock, Ont.
PIPES, culvert
Standard Clay Products, Ltd., St. Johns, Que.
*The Pedlar People Limited, Oshawa.
PIPE AND NIPPLES black and galvanized
*Canadian Tube & Iron Co., Ltd., Montreal, Que.
PIPE, sewer
Hamilton and Toronto Sewer Pipe Co., Limited, Hamilton, Ont.
Standard Clay Products, Ltd., St. Johns, Que.
PIPE, soil and fittings
Authes Foundry, Ltd., Toronto and Winnipeg.
Warden King Lt., Montreal, Que.
PIPE AND TUBES, wrought
*Page-Hersey Iron Tube and Lead Co., Ltd., Toronto.
PISTON RODS
*The Canadian Drawn Steel Co., Limited, Hamilton, Ont.
*Union Drawn Steel Co., Limited, Hamilton, Ont.
PLANERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
PLANING MILLS
G. & J. Esplen, Montreal, Que.
PLASTERING TROWELS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
PLOWS
J. Fleury's Sons, Aurora, Ont.
PLUGS
*Crouse-Hinds Co., Ltd., Toronto.
PLUMBAGO, CRUCIBLES and STOPPER HEADS
Dominion Crucible Co., Limited, Montreal.
PLUMBERS' SUPPLIES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto.
*United Brass & Lead, Ltd., Toronto
PLUMBING APPLIANCES
Standard Sanitary Mfg. Co., Ltd., Limited, Toronto.
PLUMBING SUPPLIES
Toronto Plate Glass Importing Co., Limited, Toronto.
PNEUMATIC DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
PNEUMATIC MACHINERY
*Canadian Ingersol-Rand Co., Sherbrooke, P.Q.
POLE LINE MATERIAL (wooden insulator top pins, side blocks, pole steps, cross arms)
The Lachute Shuttle Co., Limited, Lachute Mills, P.Q.
POLES, Flag
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
POLES, telegraph and telephone, cedar
Fernie Lumber Co., Ltd., Fernie, B.C.
PORK PACKERS AND CHEESE EXPORTERS
The Ingersoll Packing Co., Limited Ingersoll, Ont.
POSTS, split cedar fence
Fernie Lumber Co., Ltd., Fernie, B.C.
POULTRY SUPPLIES AND MEDICINES
Lee Mfg. Co., Ltd., Pembroke, Ont
POWDER, blasting
Canadian Explosives, Ltd., Montreal, Que.
POWER PRESSES
Hydraulic Machinery Co., Limited, Montreal.
*William R. Perrin, Ltd., Toronto
PRESERVATIVE PAINT
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont
PRESERVATIVE PAINT FOR BOILERS
*Beveridge Paper Co., Limited, Montreal.
PRESSES, baling and filter
*William R. Perrin, Ltd., Toronto
PRESSES, hydraulic
Hydraulic Machinery Co., Limited, Montreal.
PRESSES, sheet metal stamping
Brown, Boggs Co., Ltd., Hamilton
*Canada Machinery Corporation, Limited, Galt, Ont.
PRESSES, veneer
*Canada Machinery Corporation, Limited, Galt, Ont.
PRESSED STEEL AND BRASS GREASE CUPS
*Canadian Winkley Co., Limited, Windsor, Ont.
Hydraulic Machinery Co., Limited, Montreal.
*William R. Perrin, Ltd., Toronto.
PRINTERS
Rous & Mann, Ltd., Toronto.
The Mortimer Co., Ltd., Ottawa.
PRINTING AND LITHOGRAPHING
Lawson & Jones, Limited, London, Ont.
PULLEYS
*Canadian Bond Hanger & Coupling Co., Alexandria, Ont.
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
PULLEYS, wood split.
*Bernard Industrial Co., Fortierville, P.Q.
PULP, bleached sulphite
The Edward Partington Pulp and Paper Co., St. John, N.B.
Riordan Sales Co., Ltd., Montreal.
PULP, Unbleached Sulphite.
Riordan Sales Co., Ltd., Montreal.
PULP, sulphate and sulphite.
Bathurst Lumber Co., Ltd., Bathurst, N.B.
PULP
*Brown Corporation, La Tuque, Que.
PUMPS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Canadian Allis-Chalmers, Limited Toronto.
*Bawden Machine Co., Ltd., Toronto.
*Canadian Fairbanks-Morse Company, Limited, Montreal, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
Spramotor Co., London,, Ont.
PUMPS, boiler feed
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Bawden Machine Co., Ltd., Toronto.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
PUMPS, centrifugal
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*Waterous Engine Works Co., Ltd., Brantford, Ont.
PUMPS, turbine and reciprocating
*Bawden Machine Co., Ltd., Toronto.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
PUNCHES
*John Whitfield Co., Toronto.
*Pratt & Whitney Co., Dundas.
PYROMETERS
*Canadian Hoskins Co., Walkerville, Ont.
RADIATORS
Taylor-Forbes Co., Limited, Guelph
Warden King, Ltd., Montreal, Que.
RAILINGS, brass and iron
*Dennis Wire & Iron Works Co., London, Ont.
*United Brass & Lead, Ltd., Toronto
RAILS, light
Hammant Steel Car and Engineering Works, Hamilton.
RAILWAY SIGNAL APPLIANCES
General Railway Signal Co. of Canada, Ltd., Montreal, Que.
RAILWAY SUPPLIES
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
B. J. Coghlin Co., Ltd., Montreal, Que.
RAILWAY TARIFF BINDERS
The Esdale Press Ltd., Edmonton.
READY-TO-WEAR GARMENTS, LADIES'
H. C. Boulter Co., Ltd., Toronto.
REAMERS
*Pratt & Whitney Co., Dundas.
*Butterfield & Co., Rock Island, P.Q.
RECEPTACLES
*Crouse-Hinds Co., Ltd., Toronto.
REED AND RATTAN GOODS
Canada Furniture Mfgs., Limited, Woodstock, Ont.
REFRIGERATORS
Sanderson-Harold Co., Ltd., Paris, Ont.
Lee Mfg. Co., Ltd., Pembroke, Ont.
REFRIGERATING MACHINERY
The Linde Canadian Refrigeration Co., Ltd., Montreal, Que.
REFRIGERATORS, store, homes and institutions
Ham & Nott Co., Ltd., Brantford, Ont.
John Hillock & Co., Ltd., Toronto.
REINFORCEMENT BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Limited, Hamilton, Ont.
*Trussed Concrete Steel Co., Ltd., Walkerville.
REINFORCEMENT FOR CONCRETE
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont.
REINFORCEMENT FOR CONCRETE ROOFING, Metal.
*The Pedlar People Limited Oshawa.
*Trussed Concrete Steel Co., Ltd, Walkerville.
REVOLVING DOORS
*A. B. Ormsby Co., Ltd., Toronto.
RINGS, gold
Caron Bros., Montreal, Que.
RIVETERS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
RIVETS
*Canadian Tube & Iron Co., Ltd.,
*The Steel Co. of Canada, Limited, Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal.
RIVETS, bifurcated and tubular
Parmenter & Bulloch Co., Limited, Gananoque, Ont.
RIVETS AND BURRS, iron, copper and brass
Parmenter & Bulloch Co., Limited, Gananoque, Ont.
ROCK DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
ROLLING STEEL DOORS
*A. B. Ormsby Co., Ltd., Toronto.
ROLL PRINTING
*Autographic Register Co., Ltd., Montreal.
Business Systems, Ltd., Toronto.
ROOFING, metal
*The A. B. Ormsby Co., Limited, Toronto.
ROOFING, ready to lay
Standard Paint Co. of Canada, Ltd., Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.
ROOFINGS, plastic and liquid
*Beveridge Paper Co., Limited, Montreal.
ROOF TRUSSES
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal, Que.
ROPE
*Doon Twines Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.
ROPE, cotton
Hamilton Cotton Co., Hamilton, Ont.
RUBBER FOOTWEAR
Ames Holden, McCready, Limited, Montreal, Que.
*Gutta Percha & Rubber, Ltd.
The Miner Rubber Co., Limited, Granby, Que.
RUBBER GOODS
*Canadian Consolidated Rubber Co., Limited, Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd.
RUBBER MOULDS
Bawden Machine Co., Ltd., Toronto.
RUBBER PACKING
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Garlock Packing Company, Hamilton, Ont.
RULES
The Lufkin Rule Co. of Canada, Ltd., Windsor, Ont.

*For Display Advertisement see Index, Page 43

SADDLERY HARDWARE
*Dominion Forge and Stamping Co., Walkerville, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.
SAFES
*Goldie & McCulloch Co., Limited, Galt, Ont.
J. & J. Taylor, Ltd., Toronto.
SAMPLE CASES
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto.
J. Eveleigh & Co., Ltd., Montreal.
SAND RAMMERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
SANDPAPER
*Delany and Pettit, Ltd., Toronto.
SASH CORD, cotton
Hamilton Cotton Co., Hamilton,
SALT
Canadian Salt Co., Ltd., Windsor,
*Dominion Salt Co., Ltd., Sarnia,
SANITARY PAPER TOWELS
*E. B. Eddy Co., Ltd., Hull, Que.
SAW SHARPENING MACHINERY
*Canadian Hart Wheels, Limited, Hamilton, Ont.
SAWS
*E. C. Atkins & Co., Ltd., Hamilton.
Henry Disston & Sons, Limited, Toronto.
Shurly & Deitrich, Galt, Ont.
SAWS, cross-cut and band
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.
SAWS, circular mill
Shurly & Deitrich, Galt, Ont.
SAWS, hack
*Victor Saw Works, Ltd., Hamilton, Ont.
SAWS, of all kinds
Simonds Canada Saw Co., Limited, Montreal, Que.
SAWS, rip
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.
SAWMILLS
G. & J. Esplen, Montreal, Que.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
SAW MILL MACHINERY
*Canadian Allis-Chalmers, Limited, Toronto.
SAWS, specialties
*Victor Saw Works, Ltd., Hamilton, Ont.
SCALES
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton,
SCALES, counter
The Gurney Scale Co., Hamilton,
SCALES, railway track, etc.
The Gurney Scale Co., Hamilton,
SCREENS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
SCREEN DOORS AND WINDOWS
Sanderson-Harold Co., Ltd., Paris,
Ham & Nott Co., Ltd., Brantford,
SCREWS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Limited, Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal.
*United Brass & Lead, Ltd., Toronto
SCREW PLATES
*Butterfield & Co., Rock Island, P.Q.
SECURITIES, engraved
American Bank Note Co., Ottawa,
SERGES
Rosamond Woollen Co., Almonte,
SHAFTING
Canada Forge Co., Ltd., Welland,
*Canadian Bond Hanger & Coupling Co., Alexandria, Ont.
*Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Union Drawn Steel Co., Limited, Hamilton, Ont.
*Dodge Mfg. Co., Ltd., Toronto.
SHANTY BLANKETS
Slingsby Mfg. Co., Ltd., Brantford,
SHAPERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
SHEAR BLADES, iron
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Limited, Galt, Ont.
SHEATHING
*The Barrett Co., Ltd., Toronto and Montreal.
SHEATHING, asbestos corrugated
*Eureka Mineral Wool & Asbestos Co., Toronto.
SHEET METAL STAMPINGS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*The Pedlar People Limited, Oshawa.
*W. H. Banfield & Sons, Ltd. Toronto.
*The A. B. Ormsby Co., Limited, Toronto.
SHEETS, ETC.
*Tallhan Brass & Metal Co., Hamilton, Ont.
SHEETS, galvanized
*Dominion Sheet Metal Co., Ltd., Hamilton.
*The Pedlar People Limited,
SHINGLES
Bathurst Lumber Co., Ltd., Bathurst, N.B.
SHINGLE SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
SHIP BUILDERS
*Polson Iron Works, Limited, Toronto.
J. & R. Weir, Montreal, Que.
SHIRTS
John W. Peck & Co., Ltd., Montreal, Que.
SHIRTS, workmen's
*A. R. Clarke & Co., Ltd., Toronto.
SHOE PEGWOOD
O. Chalifour, Quebec, Que.
SHOE LININGS
Galt Knitting Co., Ltd., Galt, Ont.
SHOES, running and athletic
Ames-Holden-McCready, Ltd., Montreal, Que.
SHOOKS
Barchard & Co., Ltd., Montreal.
SIGNAL CELLS
Canadian National Carbon Co., Ltd., Toronto.
SILENT CHAIN DRIVES
*Canadian Link-Belt Co., Toronto.
SILVER BULLION
Coniagas Reduction Co., Ltd., St. Catharines, Ont.
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.
SILVERSMITH
Canadian Wm. A. Rogers, Ltd., Toronto.
Standard Silver Co., Toronto.
SILVERWARE, sterling
Roden Bros., Limited, Toronto.
SINGLETREES
*McKinnon Industries Limited, St. Catharines, Ont.
SINKS, enamelled
Amherst Foundry Co., Limited, Amherst, N.S.
SKATES, figure
Canada Cycle and Motor Co., Ltd.,
SKATES, genuine Acme
Canada Cycle and Motor Co., Ltd., Toronto.
SKATES, hockey
Canada Cycle and Motor Co., Ltd., Toronto.
SKATES, ice
Canada Cycle and Motor Co., Ltd., Toronto.
SKATE SHARPENERS
*Canadian Bond Hanger & Coupling Co., Alexandria, Ont.
SKIFFS
Peterboro Canoe Co., Ltd., Peterboro, Ont.
SKYLIGHTS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People Limited, Oshawa.
SLEIGHS
Tudhope-Anderson Co., Limited, Orillia, Ont.
SLIPPERS
Ames-Holden-McCready, Ltd., Montreal, Que.
SLOTTERS
*Canada Machinery Corporation, Limited, Galt, Ont.
SMALL METAL STAMPINGS, in quantities
*Canadian Winkley Co., Limited, Windsor, Ont.
SMELTER LINING
*Beveridge Paper Co., Ltd., Montreal.
SMOKE CONSUMERS
*The Jones Underfeed Stoker Co., Ltd., Toronto.
SMOKE-STACKS
*Steel Trough and Machine Co., Ltd., Tweed, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
SNAPS, for harness
*McKinnon Industries Limited, St. Catharines, Ont.
SOAPS
J. Barsalou & Co., Ltd., Montreal.
SOAP (soft, oil)
The Imperial Varnish & Color Co., Ltd., Toronto.
Sherwin-Williams Co. of Canada, Limited, Montreal, Que.
SOCKETS
*Crouse-Hinds Co., Ltd., Toronto.
SODA WATER FOUNTAINS
J. J. McLaughlin, Ltd., Toronto
SODA WATER FOUNTAINS AND ACCESSORIES
Fletcher Mfg. Co., Ltd., Toronto.
SOIL PIPE
Anthes Foundry, Ltd., Toronto.
SOLDER
Alonzo W. Spooner, Ltd., Port Hope, Ont.
*Canada Metal Co., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.
SOLDER, silver
Geo. H. Lees & Co., Hamilton.
SOLDER, wire and bar
*American Can Co., Montreal, and Hamilton.
SOLDERING IRONS AND COPPERS
Brown, Boggs Co., Ltd., Hamilton Ont.
SNOWSHOES
Holt, Renfrew, Ltd., Quebec, Que.
SPECIAL MACHINERY
*Globe Engineering Co., Limited, Hamilton, Ont.
SPELTER
*Consolidated Mining & Smelting Co. of Canada, Limited, Toronto.
SPIKES, railway and marine
Starr Mfg. Co., Ltd., Dartmouth, N.S.
SPIRAL CONVEYORS
*Canadian Mathews Gravity Carrier Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
SPLIT PEAS
H. Murton, Ltd., Guelph, Ont.
SPIRITS
*Hiram Walker & Sons, Limited, Walkerville, Ont.
SPOOLS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
SPORTING MEDALS AND TROPHIES
Roden Bros., Limited, Toronto.
SPRAYERS
Spramotor Co., London, Ont.
SPRING COTTERS
*Richards-Wilcox Canadian Co., Limited, London, Ont.
SPRINGS
*Canadian Steel Foundries, Ltd., Montreal, Que.
B. J. Coghlin Co., Ltd., Montreal.
Guelph Spring & Axle Co., Ltd., Guelph, Ont.
SPRINGS, carriage and automobile
Guelph Spring & Axle Co., Ltd., Guelph, Ont.
SPRING SHACKLE BOLTS
*Canadian Winkley Co., Limited, Windsor, Ont.
John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy, Mansell, Ltd., Toronto.
*Vogel Co. of Canada, Ltd., Montreal, Que.
SPROCKET WHEELS
*Canadian Link Belt Co., Ltd., Toronto.
STAINS
R. C. Jamieson & Co., Ltd., Montreal, Que.
STAINS, creosote shingle
A. Muirhead Co., Ltd., Toronto.
STAMPINGS
*Dominion Forge and Stamping Co., Ltd., Walkerville, Ont.
*Wentworth Mfg. Co., Hamilton.
STAMPINGS, heavy steel
Canadian Cartridge Co., Ltd., Hamilton, Ont.
STAMPS, steel, brass and rubber
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
STAMP MILLS
*Jenckes Machine Co., Sherbrooke.
STATIONERY, office
Harris Lithographing Co., Toronto.
STEAM PIPE and BOILER COVERINGS, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.
STEAM SHOVELS
*M. Beatty & Sons, Ltd., Welland,
STEAM SPECIALTIES
*C. A. Dunham Co., Ltd., Toronto.
*Darling Bros., Ltd., Montreal.
*Sheldons, Ltd., Galt.
STEAM TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Manufacturing Co., Limited, Woodstock.
STEEL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
STEEL BILLETS AND BLOOMS
*The Steel Company of Canada, Limited, Hamilton.
STEEL BUILDINGS
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal.
*McGregor & McIntyre, Ltd., Toronto.
*Mackinnon, Holmes & Co., Ltd., Sherbrooke, P.Q.
*The Pedlar People Limited, Oshawa.
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont.
*The A. B. Ormsby Co., Limited, Toronto.
STEEL CABINETS
J. & J. Taylor, Ltd., Toronto.
STEEL CASTINGS
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton.
STEEL DOORS, rolling
*The A. B. Ormsby Co., Limited, Toronto.
STEEL FILING EQUIPMENT
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
STEEL PLATE WORK
*Mackinnon, Holmes & Co., Ltd., Sherbrooke, P.Q.
*Toronto Iron Works, Ltd., Toronto.
STEEL RODS
*The Steel Co. of Canada, Ltd., Hamilton.
STEEL SASH
*Dennis Wire & Iron Works Co., London.
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont.
*The A. B. Ormsby Co., Limited, Toronto.
STEEL SHELVING
*Dennis Wire & Iron Works Co., London.
STEEL WIRE RODS
*The Steel Company of Canada, Limited, Hamilton.
STEEL WAGON HARDWARE
*McKinnon Industries Limited, St. Catharines, Ont.
STELLITE
*Deloro Smelting & Refining Co., Ltd., Deloro and Toronto.
STENCILS, brass
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
STEPS, for buggies and carriages
*McKinnon Industries Limited, St. Catharines, Ont.
STEREOTYPING
Central Press Agency, Toronto
STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto.

*For Display Advertisement see Index, Page 43

STOOLS AND BENCHES, piano and organ
*Otterville Mfg. Co., Ltd., Otterville, Ont.
STOOLS, steel factory
*Steel Trough and Machine Co., Ltd., Tweed, Ont.
STONE
The Hagersville Contracting Co., Hagersville, Ont.
STONEWARE
*Jas. W. Foley & Co., St. John, N.B.
STORAGE BATTERIES
*Canadian General Electric Company, Ltd., Toronto.
STORE FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.
STOVES
Smith Foundry Co., Ltd., Fredericton, N.B.
Tudhope-Anderson Co., Limited, Orillia, Ont.
STOVE LININGS
Standard Clay Products, Ltd., St. Johns, Que.
STOVES AND RANGES
Lee Mfg. Co., Ltd., Pembroke, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
McClary Mfg. Co., London, Ont.
STRAWS, paper drinking
Fletcher Mfg. Co., Ltd., Toronto.
STRAWBOARD
*Canada Boxboard Co., Limited, Montreal, Que.
STREET LIGHTING FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.
STRETCHERS, lace curtain
*Otterville Mfg. Co., Ltd., Otterville, Ont.
STRUCTURAL STEEL
*Canadian Allis-Chalmers, Limited, Toronto.
*Dominion Bridge Co., Montreal.
*Hamilton Bridge Works Co., Ltd., Hamilton.
*Manitoba Bridge & Iron Works, Ltd., Winnipeg.
*McGregor & McIntyre, Ltd., Toronto.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
STUMP EXTRACTORS
*The John Whitfield Company, Toronto, Ont.
SUIT CASES
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto.
SUPPLY DEALERS
*The Foundation Co., Limited, Montreal.
SURFACERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
SWITCHBOARDS
*Canadian General Electric Company, Ltd., Toronto.
*Crouse-Hinds Co., Ltd., Toronto.
SWITCHES
*Crouse-Hinds Co., Ltd., Toronto.
SWITCHES, railway
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.
SWITCHES AND FROGS
*Canadian Steel Foundries, Ltd., Montreal, Que.
SWITCH STANDS
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.
TABLE COVERS, chenille
Hamilton Cotton Co., Hamilton.
TANKS
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*Toronto Iron Works, Ltd., Toronto.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
Goold-Shapley-Muir Co., Ltd., Brantford, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*The Goldie & McCullough Co., Ltd., Galt.
*The Waterous Engine Works Co., Ltd., Brantford.
TANKS, steel storage
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*Steel Trough and Machine Co., Ltd., Tweed, Ont.
TANNERS' SUPPLIES
McClary Mfg. Co., London, Ont.
TAPS
*Butterfield & Co., Rock Island, P.Q
*Pratt & Whitney Co., Dundas.
TAPES, measuring
The Lufkin Rule Co., of Canada, Ltd., Windsor, Ont.
TELEPHONE ACCESSORIES
*Canadian Independent Telephone Co., Toronto.
*Northern Electric Co., Limited, Montreal, Que.
TENTS
Turner, J. J., & Sons, Peterboro,
*Scythes & Co., Ltd., Toronto.
TERMINALS, electric cable
*Standard Underground Cable Co of Canada, Ltd., Hamilton, Ont.
TERRA ALBA
*Albert Mfg. Co., Hillsborough, N.B.
TERRA COTTA (architectural)
Toronto Plate Glass Importing Co., Ltd., Toronto.
TEXTILE SUPPLIES (shuttles, bobbins, spools and picker sticks.)
The Lachute Shuttle Co., Limited, Lachute Mills, P.Q.
THUMB SCREWS
*Canadian Billings & Spencer,, Ltd., Welland.
TIE TAMPERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
TIE PLATES, for railways
*McKinnon Industries Limited, St. Catharines, Ont.
TILING, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd.
TIME RECORDERS
*International Business Machines Co., Limited, Toronto.
TIRES, bicycle, auto, carriage, truck, motorcycle
Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd.
TOOLS
*The John Whitfield Company, Toronto, Ont.
TOOLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
TOOLS, track
B. J. Coghlin Co., Ltd., Hamilton.
TOOLS, sheet metal workers'
Brown, Boggs Co., Ltd., Hamilton.
TRACK, steel, portable
Hammant Steel Car and Engineering Works, Hamilton.
TRACTORS, kerosene and gasoline
*Gilson Manufacturing Co., Ltd., Guelph.
TRADE MARKS AND DESIGNS
Ridout & Maybee, Toronto.
TRANSFORMERS
*Canadian General Electric Company, Ltd., Toronto.
*The Canadian Crocker-Wheeler Co., Limited, St. Catharines.
TRANSLATIONS INTO FRENCH
Raoul Renault, Quebec City.
TRANSMISSION MACHINERY
*Canadian Bond Hanger & Coupling Co., Alexandria, Ont.
*Canadian Link Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford.
TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Mfg. Co., Woodstock.
TROLLEYS
*Richard-Wilcox Canadian Co., Limited, London, Ont.
*Northern Crane Works, Limited, Walkerville.
TRUCKS
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton.
*Northern Crane Works, Limited, Walkerville.
TRUCKS, brick, tile and lumber
*Waterous Engine Works Co., Ltd., Brantford.
TRUCKS, fibre and reinforced
*Beveridge Paper Co., Limited, Montreal.
TRUCKS, motor
*National Steel Car Co., Limited. Hamilton.
TRUCKS, warehouse and factory
The W. S. Mahaffy Co., Toronto.
TRUCKS, steel, forge and foundry
Hammant Steel Car and Engineering Works, Hamilton.
TRUCKS FOR OFFICE AND VAULT USE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
TRUNKS
Lamontagne Ltd., Montreal, Que.
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto.
TUBING, brass and copper
*Booth-Coulter Copper & Brass Co., Ltd., Toronto.
Canadian Seamless Wire Co., Toronto.
*Tallman Brass and Metal Co, Hamilton, Ont.
*Dominion Copper Products Company, Limited, Montreal.
TUBING, Fibre
*Beveridge Paper Co., Limited. Montreal.
TUBING, gold and silver
Canadian Seamless Wire Co., Toronto.
TUBS, Ice cream
Fletcher Mfg. Co., Ltd., Toronto.
TUMBLERS, foundry
*Northern Crane Works, Limited, Walkerville.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
TURBINES, steam
*The Canadian Crocker-Wheeler Co., Limited. St. Catharines.
TURBINE PUMPS
*The Goldie & McCulloch Co., Limited, Galt, Ont.
TURPENTINE
*Brown Corporation, La Tuque, Que.
TWEEDS
Rosamond Woollen Co., Almonte, Ont.
TWINES
*Doon Twines Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.
TWINES, binder
Brantford Cordage Co., Ltd., Brantford, Ont.
TWINES, cotton
Hamilton Cotton Co, Hamilton, Ont.
TWIST DRILLS
*John Morrow Screw and Nut Co., Ltd., Ingersoll.
*Pratt and Whitney Co., of Canada, Dundas, Ont.
*The Wilt Twist Drill Co., Ltd., Walkerville, Ont
UNDERWEAR
Galt Knitting Co., Ltd., Galt, Ont.
UNDERWEAR, imperial
Kingston Hosiery Co., Ltd., Kingston, Ont.
UNIONS
*Dart Union Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.
UPHOLSTERED FURNITURE, leather and tapestries
Imperial Rattan Co., Ltd.
VALVES
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*Jenkins Bros., Ltd., Montreal.
*Kerr Engine Co, Ltd., Walkerville.
T. McAvity & Sons, Ltd., St. John, N.B.
*Penberthy Injector Co., Ltd., Windsor.
VALVES, for steam and water
*Jenkins Bros., Ltd., Montreal.
*Mueller Mfg. Co., Ltd., Sarnia.
*Penberthy Injector Co., Ltd., Windsor.
*United Brass & Lead, Ltd., Toronto
James Morrison Brass Mfg. Co., Limited, Toronto.
VALVES, pressure reducing
*Mueller Mfg. Co., Ltd., Sarnia.
VALVES, regrinding globe, angle, cross checks, swing checks.
*Mueller Mfg. Co., Ltd., Sarnia.
Penberthy Injector Co., Ltd., Windsor, Ont.
VALVES, regulating
*Mueller Mfg. Co., Ltd., Sarnia.
VALVES, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto
VARNISHES
*Ault & Wiborg Co of Canada, Ltd., Toronto.
Berry Bros., Walkerville, Ont.
R. C. Jamieson & Co, Ltd., Montreal, Que.
VAULT FITTINGS, steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
VAULTS AND VAULT DOORS
*The Goldie & McCullough Co., Ltd., Galt
J. & J. Taylor, Ltd., Toronto.
VENTILATING APPLIANCES
*Sheldons, Ltd., Galt.
VENTILATING SYSTEMS
Gurney Foundry Co., Ltd., Toronto.
VENTILATORS
*A. B. Ormsby, Ltd., Toronto.
*The Pedlar People Limited, Oshawa.
VOLTMETERS AND AMMETERS
*Crouse-Hinds Co., Ltd., Toronto.
WAGONS
TudhopeAnderson Co., Ltd., Orillia.
WAGON HARDWARE
*McKinnon Industries Limited, St. Catharines, Ont.
WALL COPING
Standard Clay Products, Ltd., St. Johns, Que.
WASHERS
*The Steel Company of Canada, Limited, Hamilton.
*United Brass & Lead, Ltd., Toronto
WASHERS, fibre
*Beveridge Paper Co., Limited, Montreal.
WASHERS, plate or wrought
London Rolling Mill Co., Ltd., London, Ont.
WASTE PAPER BASKETS AND ALL RECEPTACLES, fibre
*Beveridge Paper Co., Limited, Montreal.
WASTES, wool and cotton
Factory Waste and Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto.
WATERPROOF, cement coating
Benjamin Moore & Co, Ltd., Toronto.
*Beveridge Paper Co., Limited, Montreal.
*The Barrett Co., Ltd., Toronto and Montreal.
*Trussed Concrete Steel Co. of Canada, Limited. Walkerville, Ont.
WATER WHEELS
*Canadian Allis-Chalmers, Limited, Toronto.
WEBBING, elastic
Hamilton Cotton Co., Hamilton
WEBBING, non-elastic
Hamilton Cotton Co., Hamilton
WELDING APPARATUS AND MATERIALS
*The Prest-O-Lite Company.
WELL-DIGGING TOOLS AND MACHINERY
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
WHEEL FLANGES
*McKinnon Industries Limited, St. Catharines, Ont.
WHEELS
*Canadian Car & Foundry Co., Ltd., Montreal, Que
Wheels, corundum
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
WHEELS, emery
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
WHEELS, fibre
*Beveridge Paper Co., Limited, Montreal.
WELL DRILLING TOOLS AND MACHINERY
Oil Well Supply Co, Ltd., Petrolia, Ont.
WHIPS AND LASHES
Lay Whip Co., Rock Island, Que.
WHIPSOCKETS
*McKinnon Industries Limited, St. Catharines, Ont.
WHITE ARSENIC
Coniagas Reduction Co., Ltd., St. Catharines, Ont
WHITE LEAD
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal

*For Display Advertisement see Index, Page 43

WINDMILLS
*Goold-Shapley-Muir Co., Limited, Brantford, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*Medicine Hat Pump & Brass Mfg. Co., Medicine Hat, Alta.

WINDOW SHADES
Daly & Morin, Montreal, Que.

WIRE
*The Steel Company of Canada, Limited, Hamilton.
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.
*Eugene F. Phillips, Electrical Works, Ltd., Montreal.
The Graham Nail Works, Toronto.

WIRE BALE TIES
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.

WIRE CLOTH
*Canada Wire & Iron Goods Co., Hamilton.
C. H. Johnston & Sons, Ltd., Montreal, Que.

WIRE, feeder and trolley
*Eugene F. Phillips, Electrical Works, Ltd., Montreal.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

WIRE GUARDS
*Canada Wire & Iron Goods Co., Hamilton.
C. H. Johnston & Sons, Ltd., Montreal, Que.

WIRE, insulated electric
*Northern Electric Co., Limited, Montreal.
*Eugene F. Phillips, Electrical Works, Ltd., Montreal.
*Standard Underground Cable Co of Canada, Ltd., Hamilton, Ont.

WIRE, weatherproof
*Northern Electric Co., Limited Montreal.
*Eugene F. Phillips, Electrical Works, Ltd., Montreal.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

WIRE ROPE
*Dominion Wire Rope Co., Ltd., Montreal.
*The B. Greeening Wire Co., Ltd, Hamilton.

WIRE WORK
C. H. Johnson & Sons, Ltd., Montreal, Que.
*Canada Wire & Iron Goods Co., Hamilton.
*The Geo. B. Meadows, Toronto, Iron and Brass Goods Works Co., Ltd., Toronto.

WIRING DEVICES
*Crouse-Hinds Co., Ltd., Toronto.

WOOD
Standard Fuel Co., Toronto.

WOOD BORERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

WOOD PRESERVATIVE AND STAIN
*Beveridge Paper Co., Montreal.

WOOD PRINTERS
Barchard & Co., Ltd., Toronto.

WOOD PULP, mechanical
La Cie de Pulpe de Chicoutimi Chicoutimi, Que.

WOODBOARD
*Canada Boxboard Co., Limited, Montreal, Que.

WOOD SHOP, general work
*Canadian Rumely Co., Limited, Toronto, Ont.

WOOD SPLIT PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd Galt, Ont.

WOOD STAVE PIPE
T. A. Morrison & Co., Montreal.

WOOL
*H. V. Andrews, Toronto.

WOOD TURNING
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.

WORSTED COATINGS AND SUITINGS
Rosamond Woollen Co., Almonte

WRAPPERS, book, bottle, etc.
*The Thompson & Norris Co., of Canada, Ltd., Niagara Falls, Ont.

WRAPPERS, waterproof paper and twine reinforced
*Beveridge Paper Co., Limited. Montreal.

WRENCHES
*McKinnon Industries Limited, St Catharines, Ont.

WROUGHT IRON PIPE
*The Steel Company of Canada Ltd., Hamilton.

WROUGHT PIPE
*The Steel Company of Canada Ltd., Hamilton.

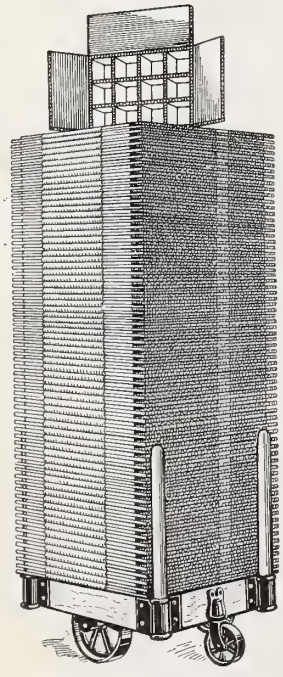
YARNS, cotton
Hamilton Cotton Co., Hamilton

ZINC, electrical
*The Canada Metal Co., Toronto

* For Display Advertisement see Index, Page 43



Pioneer Manufacturers of Machine Knives and Metal Cutting Shear Blades in Canada.
THE PETER HAY KNIFE CO., LIMITED
GALT, ONTARIO



OUR SPECIALTY
FOLDING CELLBOARD
FREIGHT BOXES

ADAMS CELLBOARD COMPANY

MANUFACTURERS OF
SHIPPING CONTAINERS AND CORRUGATED PAPER
IMPORTERS OF
GUM SODA AND SEALING TAPES

We desire to have your samples or measurements to quote on when you are considering placing an order.

5 TO 21 DEFRIES STREET
AND DON ESPLANADE
TORONTO

TORONTO CONVENTION C.M.A., JUNE 10-12

Vol. XX., No. 2 JUNE, 1919 $2.00 per Year

INDUSTRIAL CANADA



Let Us Know Your Product and We'll Make All Canada Know It, Too

You can get smart advertising copy most anywhere. But we never let the ink spread over the paper space our clients pay for, till we are sure we know his product, his possible market and the best method to increase his distribution and sales.

That is one reason we like to serve the small advertiser with the courage to start without a splash. We want him to learn to swim close to shore, before he ventures into the deep sea of advertising.

You are not too small to join our list of big ones. And we know you'll grow.

A letter will get a prompt answer. A call a pleasant welcome.

J. J. GIBBONS, LIMITED

General Advertising Agents

MONTREAL TORONTO WINNIPEG

PUBLISHED BY THE CANADIAN MANUFACTURERS ASSOCIATION INCORPORATED.

HEAD OFFICE TORONTO · BRANCH OFFICES, MONTREAL, HAMILTON, WINNIPEG, VANCOUVER, HALIFAX, QUEBEC.

STEEL PLATE CONSTRUCTION

Oil Storage, Gasoline Tanks, Air Receivers, Pneumatic Water Supply Tanks, Smoke Stacks, Boiler Breeching, Riveted Steel Pipe, Bins and Hoppers. Heavy and light steel plate construction erected anywhere.

We Invite Your Inquiry

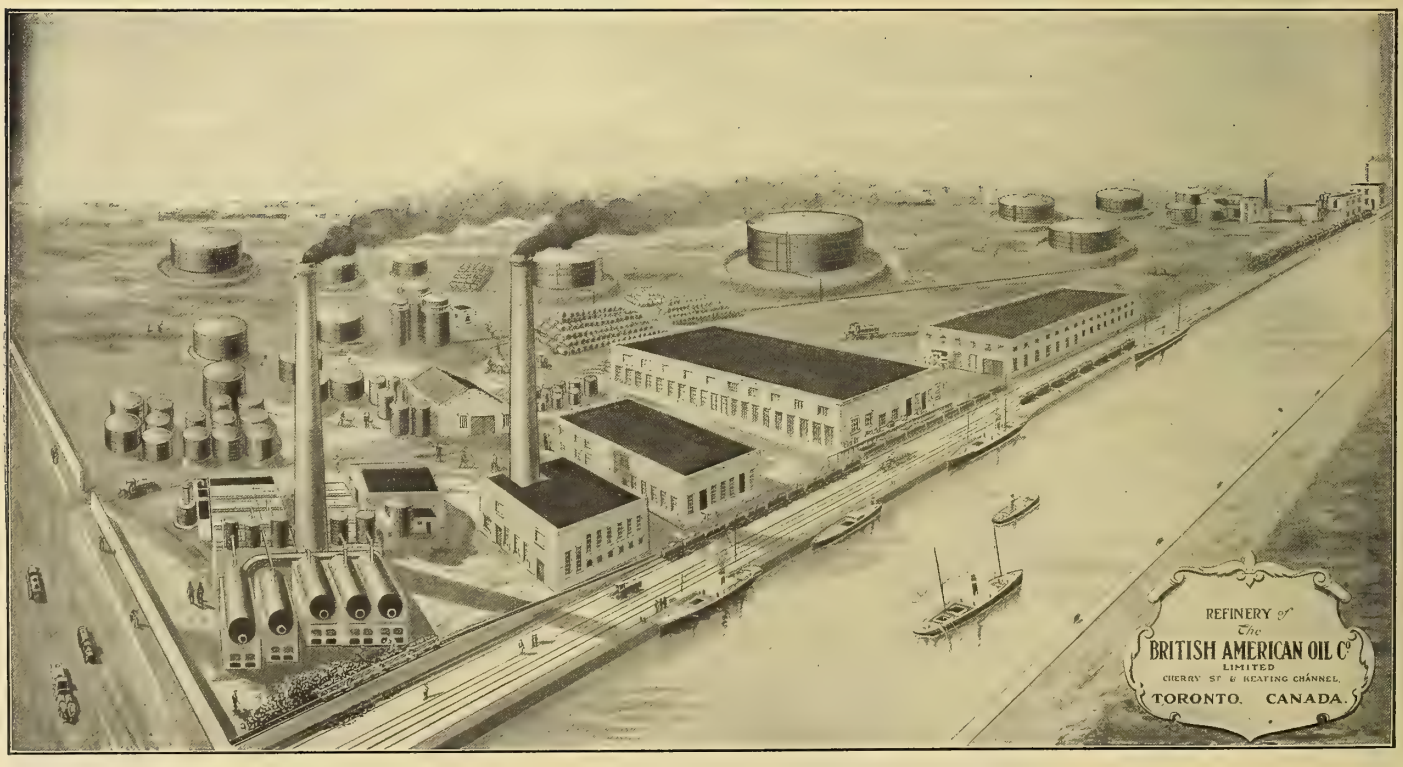
THE
TORONTO IRON WORKS
LIMITED
HEAD OFFICE: ROYAL BANK BLDG. TORONTO WORKS: CHERRY STREET



Metal-Cutting Shear Blades

GALT KNIFE CO.
Limited
GALT ONT.

THE BRITISH AMERICAN OIL CO., LIMITED

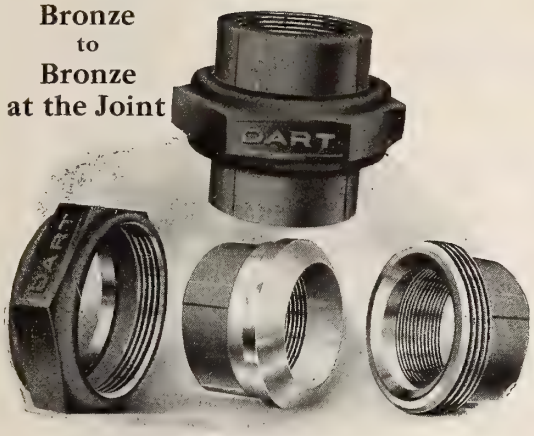


Head Office: ROYAL BANK BUILDING, TORONTO Branches: Montreal, Ottawa, London, Windsor, Etc.

DART

TRADE MARK

Bronze
to
Bronze
at the Joint



DART

Union Pipe Couplings

Will keep your pipe lines free from leaks whether they are for Steam, Water, Air, etc.

Dart Union Pipe Couplings are built for a life-time of efficient service.
They are economical because there is no upkeep or replacement cost, nor loss from leaks.

ASK YOUR JOBBER

Manufactured by DART UNION CO., Ltd., Toronto, Canada

GRACE & CO., LIMITED

DOMINION EXPRESS BUILDING

MONTREAL - CANADA

EXPORTERS

IMPORTERS

With our own extensive connections embracing practically all markets of importance we are in an unusual position to advise Canadian Manufacturers regarding Export Opportunities and also to submit offerings of the raw materials in which they are interested.

LONDON NEW YORK LIVERPOOL CALCUTTA
RIO DE JANEIRO LIMA TOKIO SHANGHAI SAN FRANCISCO
VALPARAISO CUBA JAMAICA BUENOS AYRES SANTOS
STOCKHOLM BARCELONA GENOA PARIS

Index to Advertisements.....Page 43 Contents.....Page 45

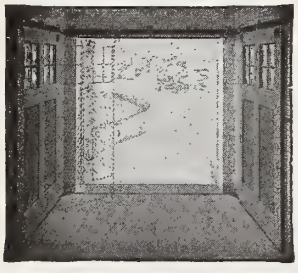


BULLDOG STEEL JOIST HANGERS

They never let go! Stronger than malleable. All sizes and styles for all kinds of work. Save space and time in erection.

GARAGE DOOR HARDWARE OF ALL KINDS FOR ANY PURPOSE

Angle Doors, Parallel Doors, etc. Special jobs receive the prompt attention of our engineering department. Let us know your requirements.





Put Your Trucks on The Ceiling!

The Modern Method of Factory Transportation

A Richards-Wilcox Carrier System—either I-Beam or Trolley—will pay for itself in one year on actual pay-roll saving, not to mention the increased efficiency. Occupies no floor space. Always ready for use. Operates easily, one man can handle 2,500 lbs. Trolley carriers made in sixteen styles and sizes for loads up to 2,500 lbs. For heavier loads use I-Beam Equipment.

Catalogs Upon Request

Richards-Wilcox Canadian Co. Ltd.

AURORA BOSTON NEW YORK CHICAGO — London Ontario — PHILADELPHIA MINNEAPOLIS SAN. FRANCISCO ST. LOUIS

"A hanger for any door that slides"

"R-W" TROLLEYS ARE BEST FOR ALL SLIDING DOORS



Specified by leading architects and engineers throughout Canada and the United States. "A hanger for any door that slides."

FIRE DOORS AND FIRE DOOR HARDWARE WITH UNDERWRITERS' LABEL

All styles, single or double, sliding or swinging. A fire door with labeled hardware is the surest way to prevent fire from spreading.



COPPER SPELTER LEAD

Tadanac Brand

PRODUCED IN CANADA

BY

The Consolidated Mining and Smelting Co. of Canada, Ltd.

TRAIL, British Columbia

COPPER—Electrolytic Ingot, Bar, Slab and Cake

SPELTER—High-Grade Electrolytic Zinc, Brass Special and Prime Western

PIG LEAD—Chemical, Corroding and Common

Sales Office: C.P.R. Bldg., Toronto

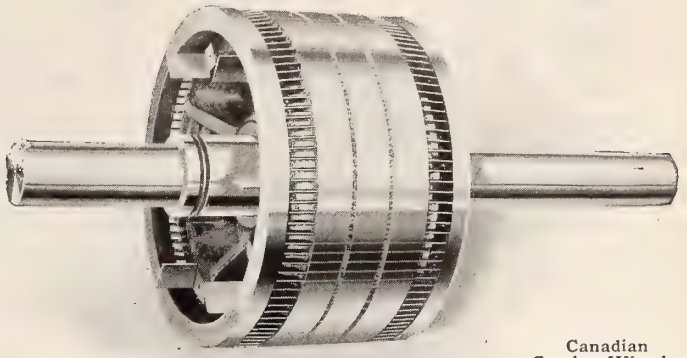
Just Ask Your Electrical Friend--

WHAT ROTOR DESIGN LIKE THIS MEANS TO THE LONG LIFE AND GOOD SERVICE OF YOUR MOTOR—

HIS ANSWER WILL LIKELY MEAN THAT YOUR NEXT MOTORS WILL BE CANADIAN CROCKER-WHEELER.

SOLID METAL WINDING ALLOWS NO LOOSE JOINTS, NO BOLTS, RIVETS OR SCREWS TO COME AWAY, NO SPARKING OR ARCING AT BARS OR RINGS.

LET US SEND YOU BULLETIN



Canadian Crocker-Wheeler Cast Welded Squirrel Cage Rotor

Canadian Crocker-Wheeler Apparatus and Service are available at all Branches of the

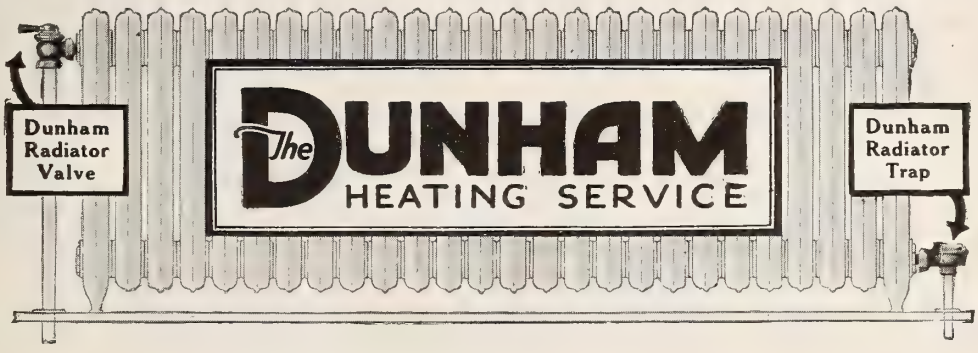
Montreal Halifax Ottawa Toronto London Winnipeg Regina Calgary Vancouver

Northern Electric Company
LIMITED

THE CANADIAN
CROCKER - WHEELER COMPANY
LIMITED
Manufacturers and Electrical Engineers

Head Office and Works : ST. CATHARINES, ONT

District Offices : TORONTO and MONTREAL



A Timely Service---and the Company behind it

The public wants better steam heating service---more comfort per ton of coal. This Company is in a most favorable position to meet this demand through its co-workers---the architects, heating and ventilating engineers, heating contractors and builders---to whom it offers practical co-operation that will increase their prestige as well as their volume of business.

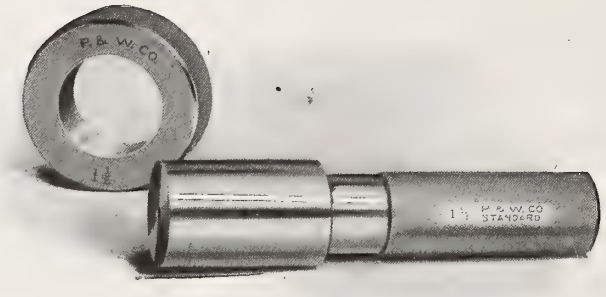
Any man who uses, specifies or installs steam heating equipment will find it advantageous to learn more about Dunham Heating Service---the product of 15 years knowledge of steam heating in all its phases.

C. A. DUNHAM COMPANY, LIMITED, Toronto, Ontario

HALIFAX MONTREAL OTTAWA WINNIPEG VANCOUVER CALGARY

SMALL TOOLS

MILLING CUTTERS
In High Speed or Carbon Steel



Plain Side Convex
Concave Angular
and
Special Forms

Special Inserted
Blade Cutters

Our tools are manufactured from the best materials procurable, by skilled workmen with most modern equipment.

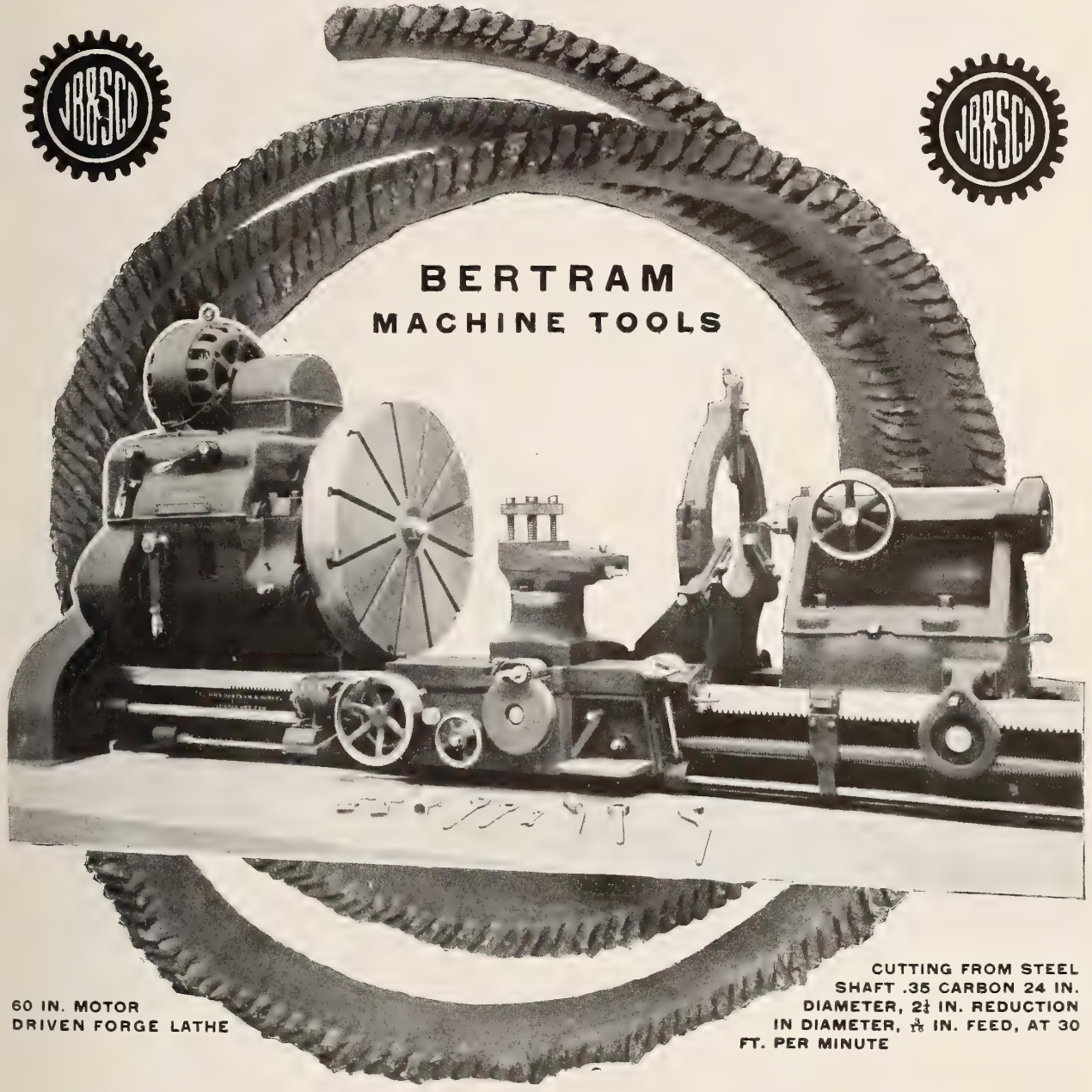
QUALITY GUARANTEED

Prompt service is assured at our nearest store, where P. & W. Small Tools are stocked for immediate delivery.

Write for Our No. 9 Catalogue

PRATT & WHITNEY CO.
of Canada, Limited
Dundas - Ontario

MONTREAL	TORONTO	WINNIPEG	VANCOUVER
723 Drummond Bldg.	1002 C.P.R. Bldg.	1205 McArthur Bldg.	B.C. Equipment Co.



60 IN. MOTOR DRIVEN FORGE LATHE

CUTTING FROM STEEL SHAFT .35 CARBON 24 IN. DIAMETER, 2¼ IN. REDUCTION IN DIAMETER, ⅜ IN. FEED, AT 30 FT. PER MINUTE

THE JOHN BERTRAM & SONS CO., LIMITED

DUNDAS - ONTARIO - CANADA

MONTREAL
723 Drummond Bldg.

TORONTO
1002 C.P.R. Bldg.

WINNIPEG
1205 McArthur Bldg.

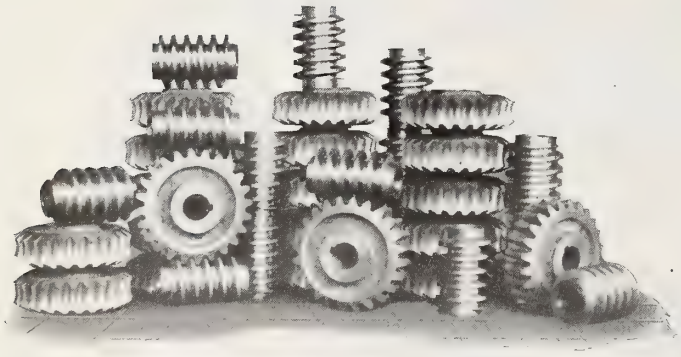
HALIFAX
Davidson Bldg.

VANCOUVER
609 Bank of Ottawa Bldg.

Quantity Production of Worms and Worm Gears

CUT GEARS

We are equipped to make worms and worm gears of almost any size, either singly or by the thousands



Get Our Quotations

Hamilton Gear Co., Ltd.

Van Horne Street - TORONTO

STELLITE

Proper Procedure + STELLITE = Production and Economy

One of Toronto's new industries was presented by us with a Tool-Holder Bit of No. 3 ***STELLITE*** to try out on Cast Iron.

They made tests with the best brands of High Speed Steel as against ***STELLITE*** and found that they were able to run at double the speed and feed by using ***STELLITE.***

AS A MATTER OF FACT A TOOL BIT OF 3/8 inch square ***STELLITE*** HAS TURNED OFF 35,000 TIMES ITS OWN WEIGHT OF CAST IRON IN TEN DAYS.

As a consequence of their own tests they laid out their transmission to accommodate ***STELLITE*** and are now getting a much larger production than they had estimated.

We visited them recently and warned the Superintendent to save his shop-ends of ***STELLITE*** as they were worth $2.00 per pound to his firm.

This was like getting money from home as he had already decided to use ***STELLITE*** without this added incentive.

Ask for Demonstration

Deloro Smelting & Refining Co.
Limited

H.O. and WORKS: DELORO, ONT.

Toronto: 200 King St. W.

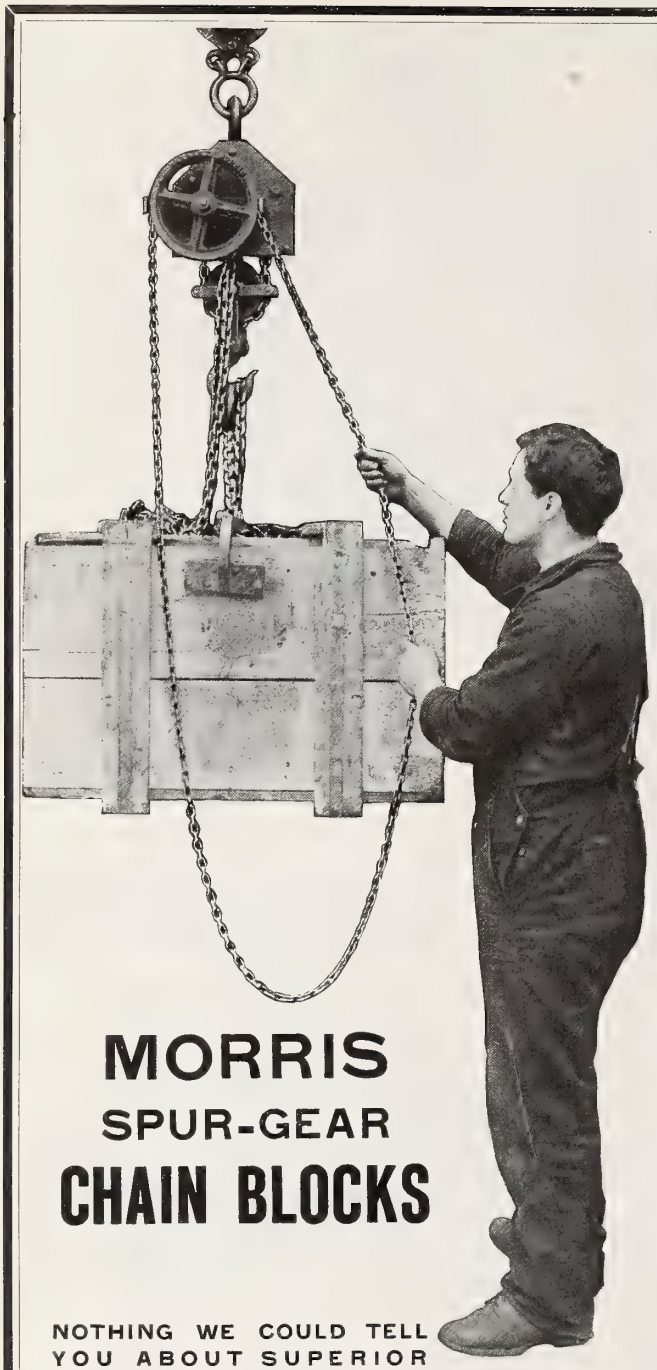
Montreal: 315 Craig St. W.



Meadows Metal Lockers

Some Companies are holding up on orders in hope of a drop in prices. If we all did that, business would come to a sudden stop. The best authorities say, "We are on a permanently high price level." Remember that while our prices are high, your sales are bringing you a greater amount of money in proportion, and you can buy now to better advantage than you will if prices should fall.

THE GEO. B. MEADOWS
TORONTO WIRE, IRON & BRASS WORKS CO
LIMITED
TORONTO ——— CANADA



MORRIS
SPUR-GEAR
CHAIN BLOCKS

NOTHING WE COULD TELL YOU ABOUT SUPERIOR QUALITIES OF THESE BLOCKS COULD BE HALF SO CONVINCING AS AN ACTUAL TEST IN YOUR OWN SHOP UNDER ORDINARY WORKING CONDITIONS.

MADE IN CAPACITIES FROM ½ TON TO 5 TONS. PORTABLE AND TRAVELING TYPES.

WE ALSO BUILD THE WORM AND TRIPLE GEAR TYPES FOR LARGER CAPACITIES. ASK US ABOUT THEM.

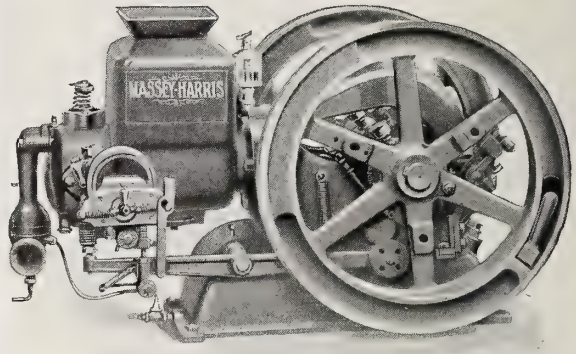
The Herbert Morris Crane & Hoist Company, Limited

NIAGARA FALLS ONTARIO

TORONTO OFFICE, Kent Building

MONTREAL OFFICE 296 St. James St

Massey-Harris



An Engine You Can Depend On

The Massey-Harris Engine can be depended on to give all the year 'round service in any kind of weather at minimum cost, because it's designed on scientific principles and every part built to stand up and wear long.

Think what these features mean:

- Simple in operation.
- A Simple and Efficient Carburetor gives a perfect mixture in any kind of weather.
- Effective Governor—No charge or spark on Idle Stroke.
- Valves Easily Removable.
- Large Water Space surrounding Cylinder.
- Safe Gasoline Storage in the substantial Cast-Iron Base.

Write for more detailed description of the Massey-Harris Gasoline Engine.

Made in Sizes to deliver from 2 to 15 H.P.

MASSEY-HARRIS CO., Limited

Head Office—Toronto, Canada

Canadian Branches at

Montreal Moncton Winnipeg Regina Saskatoon Swift Current Yorkton Calgary Edmonton

AGENCIES EVERYWHERE



HYDRAULIC ACCUMULATOR

HYDRAULIC EQUIPMENTS PUMPS AND PRESSES

"For Every Industrial Requirement"

New Catalog "B" upon request.

THE HYDRAULIC MACHINERY COMPANY, Limited

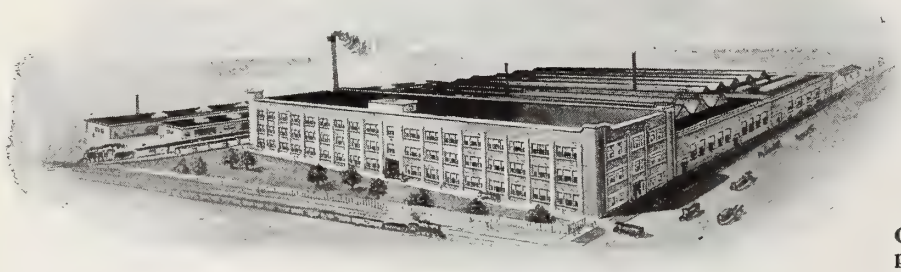
MONTREAL - - CANADA

BANFIELD SERVICE

is ALWAYS reliable

LET US QUOTE ON YOUR REQUIREMENTS IN

Sheet Metal Stampings



Pressed Steel Parts
Stamped and Spun Brass Goods
Screw Machine Products
Lighting Fixtures
Phonograph Motors
etc., etc.

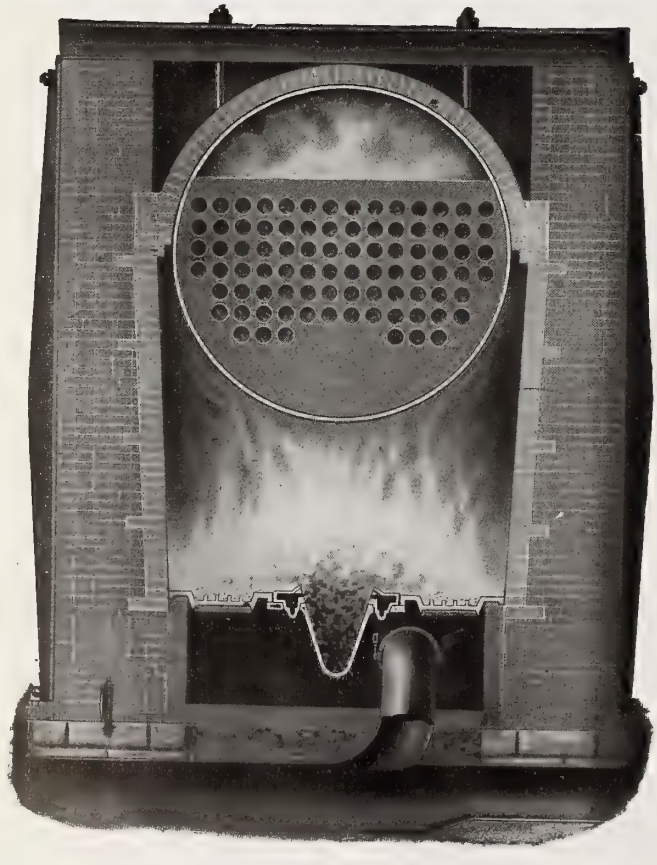
Our big, modern, fully equipped plant means economical prices and quick deliveries.

At your request we will send you full particulars concerning any of the above lines in which you may be interested.

W. H. BANFIELD & SONS, Limited

Head Office and Works:
370-386 Pape Avenue, Toronto

Showrooms:
80 King Street West, TORONTO



Let a JONES reduce your coal bills!

The High Price of coal calls for more economy in the boiler room, and the Jones Underfeed Stoker will effect that increased economy by permitting you to use a lower grade of fuel, by getting more heat units out of any grade of fuel used, and also by lessening the work of firemen.

The **Jones** feeds coal from underneath, with the result that better combustion is obtained and smoke and soot reduced to the minimum. Don't allow the smoke that goes up your stack to carry with it valuable gases—use a **Jones Stoker** and those gases will be consumed in the combustion chamber, heating your feed water instead of being wasted in the air.

The **Jones** will burn fuel of any grade—from dust to run of mine—with savings over ordinary methods of hand firing from 15 to 25 per cent.

Booklet on Request

Jones Underfeed Stoker Co.
Limited
37-41 Britain Street, Toronto

Where Jenkins Bros.' Valves are Made

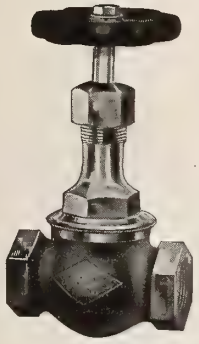


Fig. 106



Factory and Head Office of
JENKINS BROS. LIMITED
Montreal, Canada

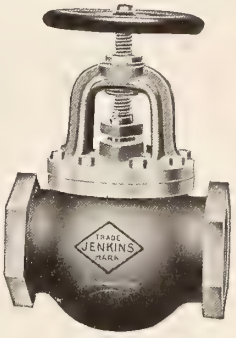


Fig. 141

Where plants are scientifically operated, valve value is measured by service rendered, and by yearly ***lack*** of up-keep cost.

If valves break down before other items of equipment, an injustice is done to the entire plant; because valves should last as long as good plant equipment. Good valves do.

Consider—40 per cent. of the Nation's Coal Pile is lost each year by power plants, from their coal investment through poor steam transmission, and from unnecessary labor costs.

JENKINS BROS.' VALVES will keep your plant running and save you money.

A Protection to the User

A steam user who installs Jenkins Bros.' Valves, can do so with the knowledge that he is protected by the maker against defects and imperfections. Our dealers have instructions to replace, without question, any imperfect or defective Jenkins Bros.' Valve returned to them.

Catalogue No. 8 sent free on request.

Head Office and Works
103 St. Remi St.
Montreal - Canada

JENKINS BROS.
Limited
Agencies in All the Principal Countries of the World

European Branch:
6 Great Queen St.
Kingsway
London, W.C. 2, Eng.



ALGOMA

STRUCTURAL STEEL – MERCHANT BARS

Blooms, Billets and Slabs
Concrete Reinforcing Bars
Shafting – Pulleys – Hangers
Iron, Brass, Bronze and Steel Castings

Sulphate of Ammonia Nitre Cake
Sulphuric Acid

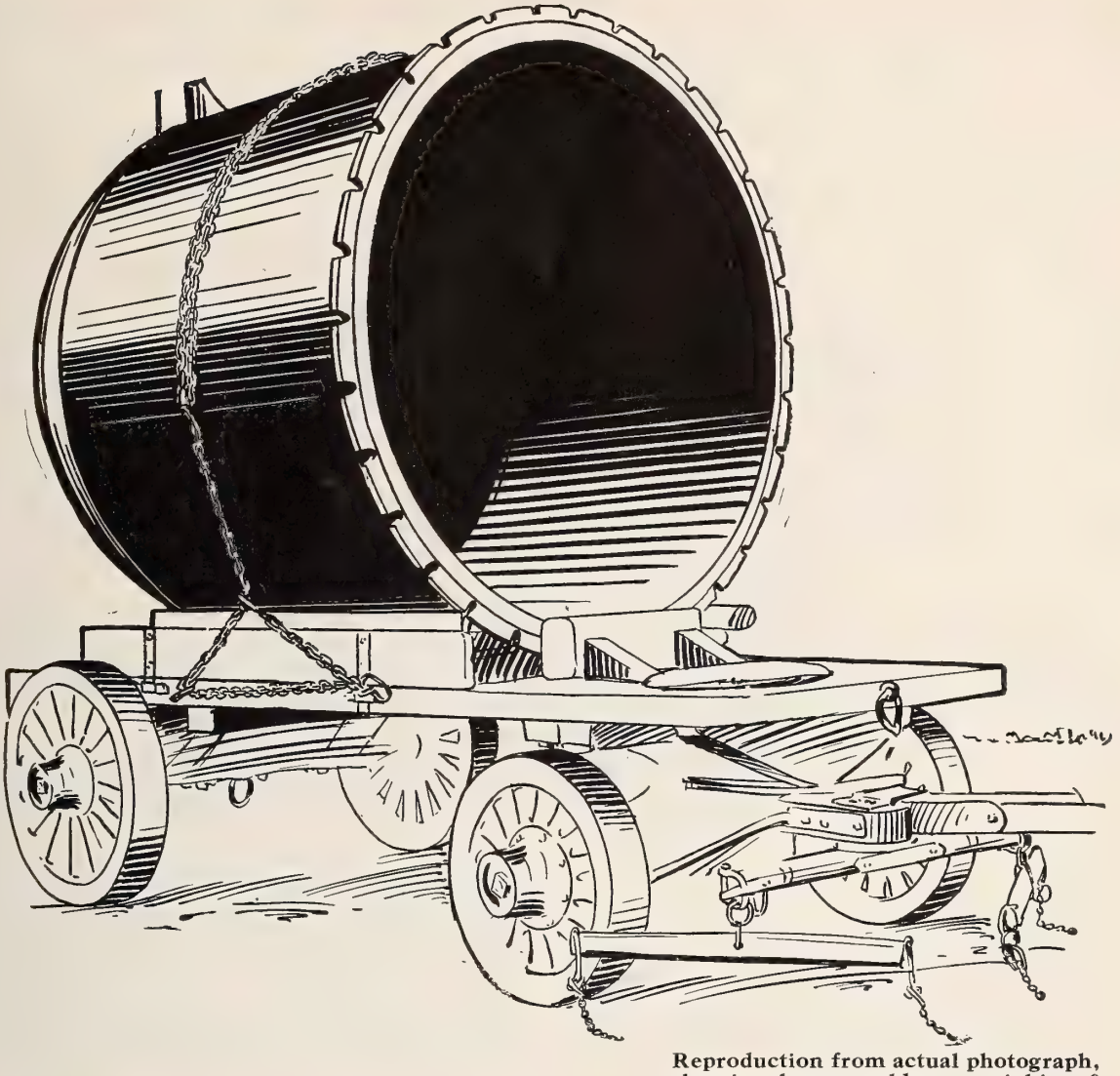
STEEL RAILS – Open Hearth Quality
Splice Bars Steel Tie Plates
Light Rails – 12 lbs. to 45 lbs.

PIG IRON

Basic Foundry Bessemer Spiegel

ALGOMA STEEL CORPORATION
LIMITED

SAULT STE. MARIE - - - - ONTARIO



Reproduction from actual photograph, showing large cauldron, weighing 9 tons, awaiting hauling.

44 Kettles Weighing $8\frac{1}{2}$ to 9 Tons Each

Were cast and made by us in 1918 for a corporation making explosives.

Big wheels, some weighing as much as twenty-four thousand pounds; giant sheaves for rope drives, and tremendous lengths and weights of shafting are being turned out continuously in our shops.

We have the machines, the men and the capital to handle these jobs right; and although this puts us in a fortunate position, we never take undue advantage of it.

We do big work in a big way for reasonable profits. That's why big firms like to do business with us; and that's why smaller firms trust us, too.

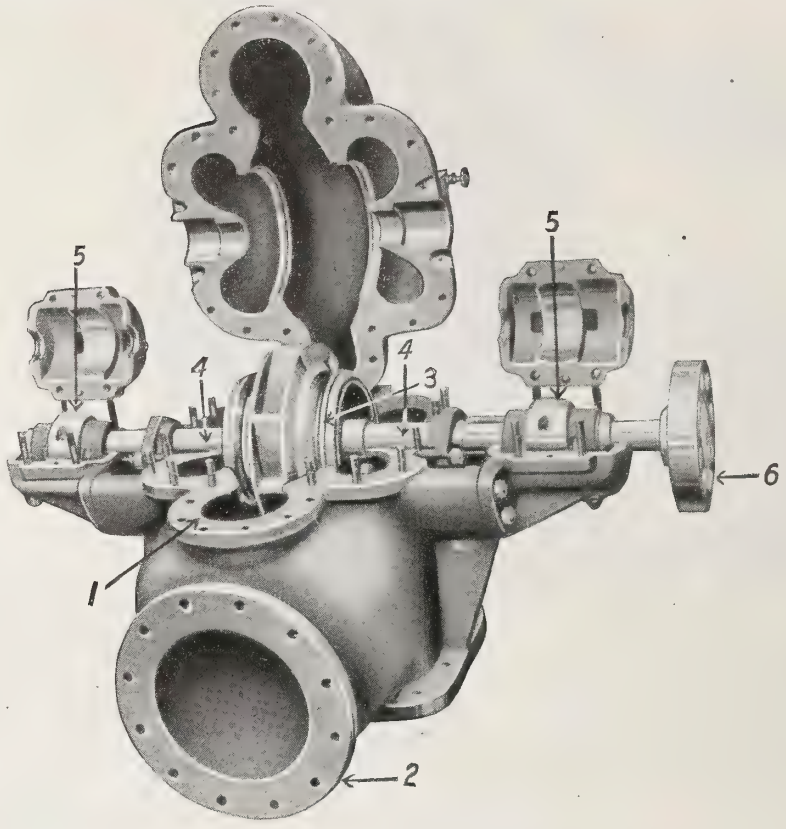
DODGE

Manufacturing Co., Limited

TORONTO - - ONTARIO

Also 770 St. Paul Street West, Haymarket Square, Montreal.

CANADA'S LARGEST BUILDERS OF TRANSMISSION MACHINERY



"CAMERON"

Double-Suction Volute Pump

Features of Design:

1. Volute casing, horizontally split; easy inspection and cleaning.
2. Upper half of casing can be removed without disturbing piping.
3. Double-suction impeller of latest design.
4. Shaft protected by removable bronze sleeves.
5. Self-aligning, ring-oiled bearings.
6. Flexible coupling supplied without extra expense.

"CAMERON" Pumps give good service

Canadian Ingersoll-Rand Company
Limited

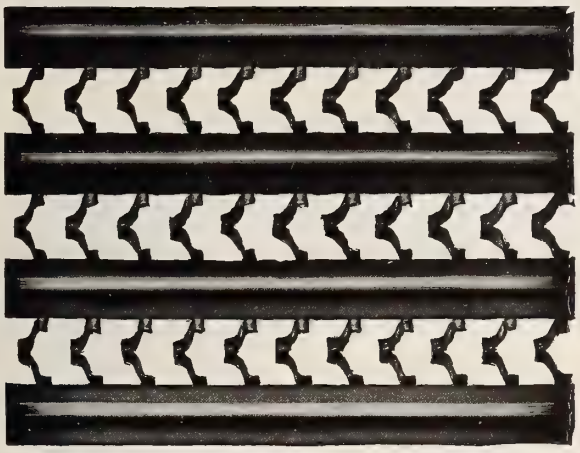
Sydney Sherbrooke Montreal Toronto Cobalt Winnipeg Nelson Vancouver

Truscon Metal Lath

Use Metal Lath
Because *Metal Lasts*

METAL LATH is infinitely superior to the old-fashioned wooden lath, which constantly deteriorates. It is easily erected and gives a durable and permanently level wall that will not bulge or crack. It thoroughly clinches and imbeds itself in the mortar. It will greatly increase the fireproofness of your building as compared with the extremely combustible wood lath—it helps to fight the fire danger. Metal lath will not harbor vermin and prevents their making passageways through the walls. Rats or mice cannot eat through steel lath.

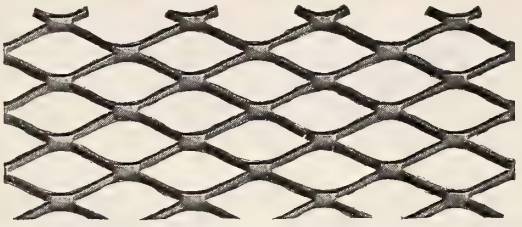
Wood lath will absorb moisture and swell, breaking the key of the plaster which at best is only latched. This causes cracks to appear. If the laths are dry when plaster is applied, as is usually the case, they will absorb the moisture needed by the plaster to insure proper setting and this causes irregular setting of plaster and inferior work.



Lorib is the stiffest steel lath because of the number of ribs: provides perfect clinch for plaster; requires minimum amount of plaster and presents flat rigid surface.
Furnished in Open Hearth or Copper Bearing Steel, painted or galvanized.
Weight 3.66 lbs. per sq. yd. Size of sheets 15⅝″ x 96″. Shipped in bundles containing 16 sheets (18½ sq. yds.) Maximum stud spacing for walls, 18″ c. to c. Maximum joist spacing for ceilings, 16″ c. to c.



Hyrib is a mesh stiffened by rigid deep ribs, manufactured from a single sheet of steel. It is used in roofs, floors, walls, sidings, partitions and ceilings.
Made in two sizes and three weights and stocked in lengths of 8, 10 and 12 feet.



Truscon Diamond Mesh Lath is the highest grade of expanded metal lath. Extreme care is taken in its manufacture, and in offering it we feel confident of its superiority. It is easy to handle and will give absolute satisfaction in every case.
Sheets 24″ x 97″, shipped in bundles containing 9 sheets (16 sq. yds.), painted or galvanized.

Nation Wide Distribution

The following Dealers stock Truscon Metal Lath:

Amherstburg	Pettypieces, Ltd.	
Barrie	Sergeant & Co.	
Belleville	J. W. Walker	
Brampton	J. A. Henderson	
Brantford	Clarence Tune	
Chatham	Sarvice, Ltd.	
Cobourg	H. Skitch	
Edmonton	Gorman, Clancey & Grindley	
Fredericton	Lawlor & Cain	
Galt	Fraser Hardware Co.	
Guelph	Bond Hardware Co.	
Hamilton	Kent, Garvin & Co.	
Ingersoll	Robt. Winlaw	
Kitchener	Wesley Braun	
Leamington	Ludlam-Ainslie Co.	
Lindsay	Baker Lumber Co.	
London	C. A. Fraser	
Moncton	Geo. A. Robertson	
Niagara Falls	Zimmerman Bros.	
Orillia	Sergeant & Co.	
Oshawa	John Bailes & Co.	
Ottawa	Builders Sales, Ltd.	
Owen Sound	T. I. Thomson, Ltd.	
Peterborough	Thos. A. Rehill	
Port Arthur	Wells & Emmerson	
Quebec	Pruneau & Co.	
Regina	McKenzie Supply Co.	
Sarnia	Sarnia Hardware Co.	
Saskatoon	Cushing Bros.	
Sault Ste. Marie	Lyons Fuel & Supply Co.	
Sherbrooke	J. S. Mitchell & Co.	
St. Catharines	T. Jones & Son	
St. John, N. B.	Gandy & Allison	
Sudbury	The Evans Co.	
Sydney, N. S.	A. M. McLeod	
Vancouver	Champion & White	
Welland	W. G. Somerville & Son	
Windsor	Geo. E. White & Son	
Winnipeg	Braid & McCurdy	

TRUSSED CONCRETE STEEL CO of Canada Limited — Truscon — BUILDING PRODUCTS

Trussed Concrete Steel Company
of Canada, Limited — Walkerville, Ontario

Montreal Toronto Winnipeg Calgary Vancouver

Warehouses at Toronto, Winnipeg and Calgary

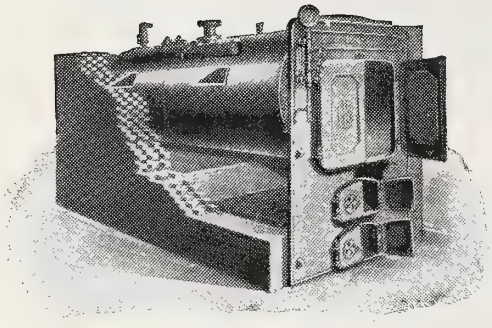
Build *Better* With
Truscon
BUILDING PRODUCTS



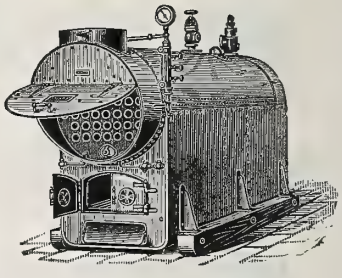
FINISHED BRIGHT
FOR
ELECTRO PLATING
DEEP DRAWING QUALITY
ACCURATE GAUGE AND WIDTH
WE SOLICIT YOUR ENQUIRIES

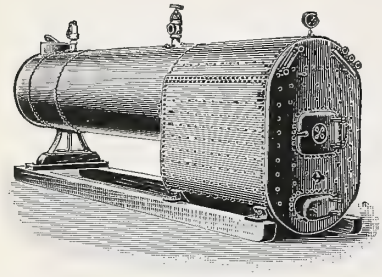
MANUFACTURED BY
STANLEY STEEL CO., LTD.
Hamilton, Canada

E. Leonard & Sons, Limited
LONDON . . ONTARIO

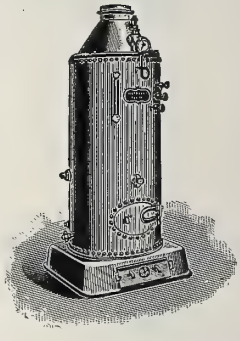


Manufacturers of
BOILERS
ENGINES
of all types and sizes

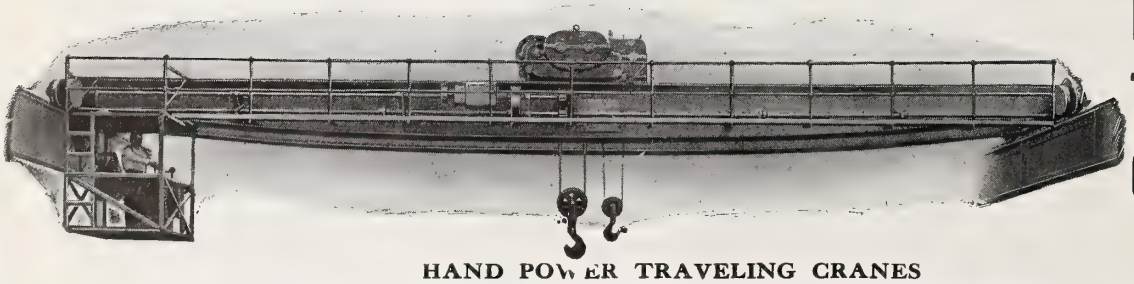




BRANCHES AT
1790 St. James Street, Montreal, P.Q.
Box 1315, Calgary, Alta.
62 Water Street, St. John, N.B.
567 Banning Street, Winnipeg, Man.
Vancouver Machinery Depot,
Vancouver, B.C.



"CRANES MADE IN CANADA"



Electric Traveling Cranes

HAND POWER TRAVELING CRANES
ELECTRIC HOISTS, AIR HOISTS, FOUNDRY EQUIPMENT
Northern Crane Works, Limited - - - - Walkerville, Ontario

Ormsby



Wrigley Building, Toronto, 25,000 square feet, Ormsby-Lupton Steel Sash. Designed and supervised by Bernard H. Prack Industrial Architect and Engineer

A. B. Ormsby Company, Ltd.,
48 Abell St.,
Toronto.

Gentlemen:-

In reply to your query, we have much pleasure in stating that the steel sash which you have supplied for the various buildings designed by us within the past ten years have proved entirely satisfactory, and we have no hesitancy in stating that it has always been a pleasure to do business with your Company.

Yours very truly,

AEP-MH. Bernard H. Prack.

Some Spendthrifts

$725,000,000 Burned Up in Canada Since 1867

Mr. Manufacturer, they charge up from 70 to 80% of their yearly fire loss to you.

You pay it, not the insurance company.

You can have light—every corner of your plant lighted. You can have clean, fresh, air for every employee, and real fire protection, by specifying and installing the strongest, heaviest and the real fire-resisting Steel Sash—THE ORMSBY-LUPTON SASH.

Read what one of the more prominent Industrial Engineers says of our sash and our service—and service, outside the product, means much to you when building. Let us send you our literature.

Ormsby-Lupton Steel Sash is the Quality Sash

The A. B. Ormsby Co., Limited, Toronto

Associated with The Metal Shingle & Siding Company, Limited
Factories at Preston, Toronto, Montreal, Winnipeg, Saskatoon, Calgary
AGENTS:
Maritime Provinces: F. A. Gillis & Co., Halifax, N.S. British Columbia: A. T. Chambers, Vancouver

"Belting Stability"



"The Original Red Rubber Belt"

There has been such uniformity of satisfaction following the selection of

DUNLOP "Gibraltar RedSpecial"

that we feel our quarter-century policy of "Keep the Quality Up as Well as the Production" is being amply rewarded.

"Gibraltar RedSpecial" faces any kind of test unflinchingly. The man who wishes to talk power, "duck," or elasticity can find ample sway for his talents in a comparison of "Gibraltar RedSpecial" with any other belting.

Minimum loss of power, mastery of heavy loads and jerky strains, highest quality of friction uniting the plies, adequate weight, no stretching—these are some of the virtues of Dunlop "Gibraltar RedSpecial" Belting, proven in thousands of cases of actual use in Pulp and Paper Mills, and on Main Drives, Saw and Lumber Mills, Mines, Steel Plants, etc.; in fact, in any and every kind of transmission work.

The Dunlop Unreserved Guarantee

If you have a difficult drive anywhere in your factory drop a line to our Head Office, or to our nearest branch, and we will send a man experienced in belt engineering to consider your requirements. If it is an instance where "Gibraltar RedSpecial" Belting may be suitably employed we will recommend its use; and we will stand behind our recommendation with the fullest guarantee ever issued by a firm producing rubber products.

Dunlop Tire & Rubber Goods Co., Limited

Head Office and Factories: TORONTO BRANCHES IN THE LEADING CITIES

Makers of Tires for all Purposes, Mechanical Rubber Products of all kinds, and General Rubber Specialties

Dependable and Efficient Power Equipment

Land

Horizontal and Vertical Steam Engines

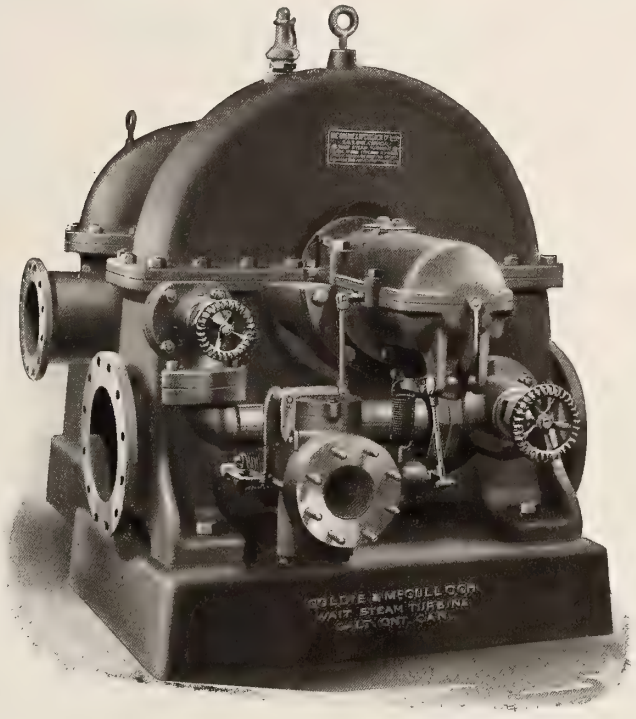
Steam Turbines

Return Tubular and Water Tube Boilers

Heaters

Centrifugal and Reciprocating Pumps and Condensers

Transmission Appliances



Marine

Compound and Triple Expansion Marine Engines

Ships' Lighting Sets

Vertical Bilge and Ballast and Boiler Feed Pumps

"Contraflo" Condensers Heaters Filter and Drain Tanks

Morison's Radial Evaporators

Ships' Side Lights etc.

Illustration shows a Goldie & McCulloch "Wait" Steam Turbine direct connected to centrifugal pump.

We also build SAFES, VAULTS AND VAULT DOORS, Deposit Boxes, etc. G. & McC. Co. Safes have never failed to preserve their contents in all of Canada's great fires for the last forty years.

Any of our catalogues and the advice of our Engineering Department are yours for the asking.

THE GOLDIE & McCULLOCH CO., Limited

Head Office and Works: GALT, ONTARIO, CANADA

TORONTO OFFICE: Suite 1101-2 Bank of Hamilton Bldg.

WESTERN BRANCH: 248 McDermott Ave. Winnipeg, Man.

QUEBEC AGENTS: Ross & Greig 400 St. James St., Montreal, Que.

BRITISH COLUMBIA AGENTS: Robt. Hamilton & Co. Vancouver, B.C.

B.C. Safe Agent: C. L. FORD, 569 Richards St. Vancouver, B.C.

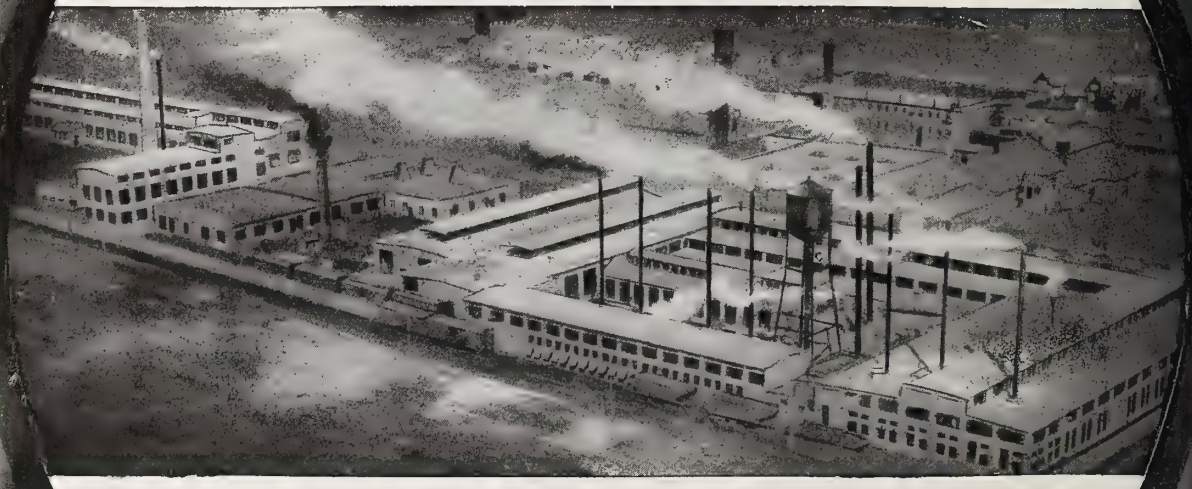
Maritime Safe Agent: E. L. STAILING, 16 Roy Bldg., Barrington St. Halifax, N.S.



BROWN'S

Beaver Brand Metals

Copper, Brass, Bronze, Canada Silver, and Gilding Metal in sheets, rolls, plates and rods. Naval Bronze, Yellow Metal and Muntz Metal in sheets and rods for shipbuilding requirements. Specify Beaver Brass Rod for drilling and free cutting. Extruded shapes.



Guaranteed Ingot Metals—Yellow, Red and Composition Ingots.
We are Purchasers of Copper Bearing Material.

Link up with Beaver Brand Products—you'll like the quality, price and service.

Brown's Copper & Brass Rolling Mills, Limited

New Toronto, Ont., Can.

COPPER & BRASS
BROWN'S
QUALITY
ROLLING MILLS



Is There a Foreign Watermark on your Stationery?

Use Canadian-Made Papers

Look for this mark on the wrapper of every package of paper you buy.

Canadian-made Papers
for
Stationery
Booklets
Circulars
Ledgers, etc.
Stock Certificates
Wrapping Papers
are second to none in
quality and value.

You receive a convincing letter appealing to you to buy certain goods, because they are MADE IN CANADA. You hold the letter up to the light. The watermark shows the stationery to be of foreign make. What is your natural mental attitude?

Your correspondent has no chance to explain why he uses foreign paper—and, indeed, no explanation is valid, for he could have bought equally good paper of Canadian make without spending any more money.

You see the importance of using "Made in Canada" stationery?

Bond papers of all qualities are made right here in Canada—papers for every purpose. Make it a personal matter to see, hereafter, that your stationery is not only of such a quality as represents your house, but that it is genuinely MADE IN CANADA.

Write for booklet "Some Facts About the Pulp and Paper Industry of Canada"

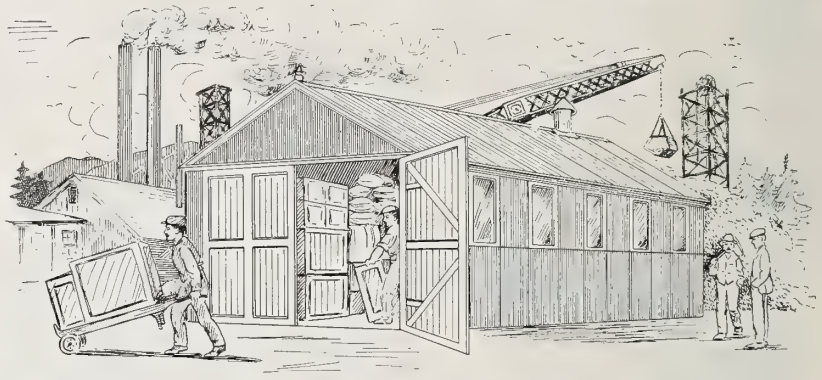
Canadian Pulp and Paper Association

304 SHAUGHNESSY BLDG., MONTREAL

Build Quickly and Economically with

PEDLAR'S CORRUGATED IRON SIDING

We manufacture corrugated sheets in all standard sizes and gauges. Our warehouses at various points in Canada, as listed below, carry full stocks at all times. When you place your order for corrugated roofing and siding with us you are assured of receiving goods that are sound in quality at the lowest prevailing prices.



Also Ventilators, Skylights, Metal Lath, "Saino" Firedoors and a very large range of other sheet metal products.

Write for prices on your requirements, mentioning this publicaton.

THE PEDLAR PEOPLE LIMITED

(Established 1861)

Head Office and Factories : OSHAWA, CANADA

Branches at Montreal, Quebec, Ottawa, Toronto, Winnipeg, Vancouver

RUST!

A source of worry to all engineers and users of iron or steel.

REDUCE THE WORRY AND PROTECT YOUR METAL

WITH

RAMSAY'S CHROMIC ACID BLACK PAINT

WRITE US YOUR REQUIREMENTS

A. RAMSAY & SON COMPANY

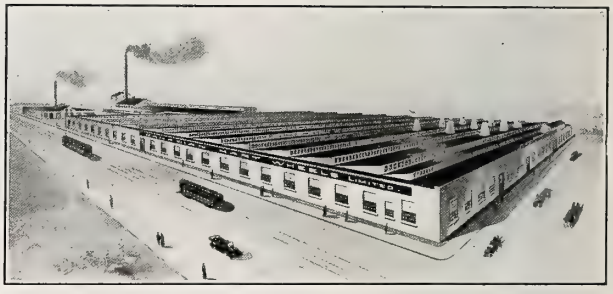
8 *Makers of Paints and Varnishes since 1842*

TORONTO MONTREAL VANCOUVER

Canadian Hart Wheels

CUT FASTER LAST LONGER

Than any other wheels on the market



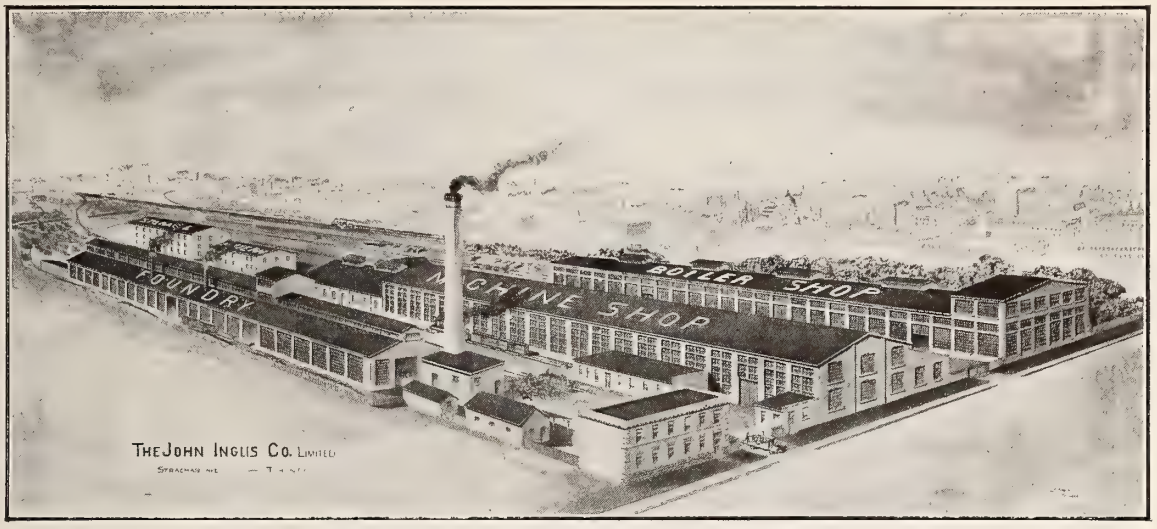
OUR NEW MODERN PLANT

Tell us the service you want performed and we will supply you with an abrasive wheel that will save you time, money and worry.

Send for one of our catalogues and tell us your troubles. We do the rest.

CANADIAN HART WHEELS LIMITED

HAMILTON - - ONTARIO



Plant of the John Inglis Co., Limited

ENGINES BOILERS AND TANKS

of All Kinds for Any Service

Send us your enquiries

THE JOHN INGLIS COMPANY, LIMITED

Engineers and Boilermakers

4 STRACHAN AVENUE - TORONTO, CANADA

Representatives in Eastern Canada—JAS. W. PYKE & CO., Limited, 232 St. James Street, Montreal

Ottawa Representative—J. W. ANDERSON, 7 Bank Street Chambers



For Repairs or Construction Work

THIS illustration shows an operator welding a metal window sash by the Prest-O-Lite process of oxy-acetylene welding. Railroads, Mines, Factories and Machine Shops everywhere have adopted this process for repairing or construction work, and are saving hundreds of thousands of dollars annually.

Prest-O-Lite PROCESS

employs both gases (acetylene and oxygen) in portable cylinders. Prest-O-Lite Dissolved Acetylene is backed by Prest-O-Lite Service, which insures prompt exchange of full cylinders for empty ones. Provides dry, purified gas, insuring better welds, quicker work and lower operating cost.

Apparatus consists of an equal pressure blow pipe, automatic regulators and gauges and all necessary equipment. Adaptable for oxy-acetylene cutting by the addition of special cutting blow pipe.

Thorough instructions are furnished free to every user of Prest-O-Lite Dissolved Acetylene. Any average workman who understands metals can learn the process quickly and easily.

Write for valuable illustrated literature and data on work others are doing by the Prest-O-Lite Welding Process. It may point out ways to solve your problems.

Address Dept. C-104

Prest-O-Lite Company of Canada, Limited

PREST-O-LITE BUILDING
Corner Elm Street and Centre Avenue
TORONTO

Plants at :

Toronto, Ont.
Merritton, Ont.
Shawinigan Falls, P.Q.
St. Boniface, Man.

Clydesdale

MOTOR TRUCKS

MADE IN CANADA



CLYDESDALE 5 TON LORRY

The value of a Motor Truck to its owner is gauged entirely by the continuity of its operation.

CLYDESDALE TRUCKS are maintaining their record, earned all over the world, for continuous uninterrupted operation, low operating and upkeep costs. This is due to the perfection of design found in Clydesdale Trucks and the high quality of materials used.

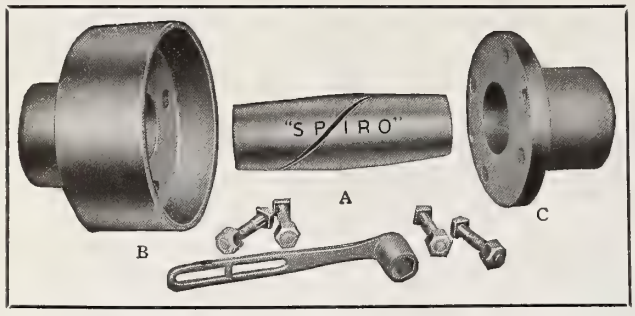
CLYDESDALE TRUCKS are built by a Canadian Manufacturer, to a great extent from Canadian Materials. The Clydesdale plant was established here to better serve Canadian Manufacturers, and to give the best possible service to Canadian Users of Transportation.

CLYDESDALE TRUCKS must be seen to be fully appreciated. We would like to send you a catalogue and, if you will permit, show you a Clydesdale in actual operation.

THE CLYDE CARS COMPANY CANADA LIMITED

General Offices and Plant — 73-81 Pearl Street

TORONTO, CANADA



A COMPLETE "SPIRO" COUPLING

How to Use the "SPIRO" Coupling

Just to show you how simple and efficient the "Spiro" really is, listen to this.

Place part (B) over one end of the shaft, do the same with part (C) on the other end of the shaft. Take part (A), the Spiral Sleeve, and place the ends of both shafts through it until they come together within 1/16″ in the centre of this sleeve. Draw parts (B) and (C) together over the sleeve and bolt together. "There you are!" Now the more you tighten the bolts the stronger the grip on the shaft, in fact the grip of "Spiro" Couplings is 50% greater than that of any other compression coupling. No time wasted, no hard labor.

Catalogues and prices on request. Want them?

Bond Engineering Works, Limited
SOLE MAKERS
BOND DOUBLE-SURE TRANSMISSION
Toronto, Ontario

Nova Scotia Steel & Coal Co. LIMITED

PLATES

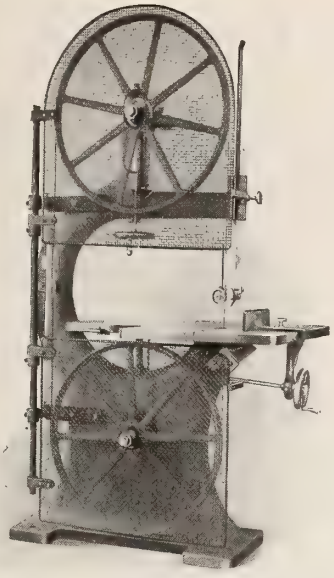
1/8 to 5/8" thick up to 48" wide, weighing up to 1060 lbs. each

Fluid Compressed Steel Forgings

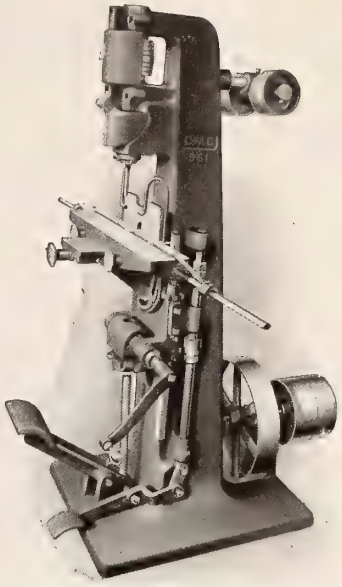
We manufacture Merchant Bars, Rounds, Flats, Squares, Ovals, Half Ovals, Tires, Sleigh Shoes, Plain or Twisted Concrete Bars, Agricultural Sections, Cold Drawn Shafting, Machinery Steel, Angle Bar Fish Plates, Track Spikes and Bolts.

General Sales Office:
WINDSOR HOTEL, MONTREAL

Head Office:
NEW GLASGOW, N.S.



No. 714 Band Saw with guards.

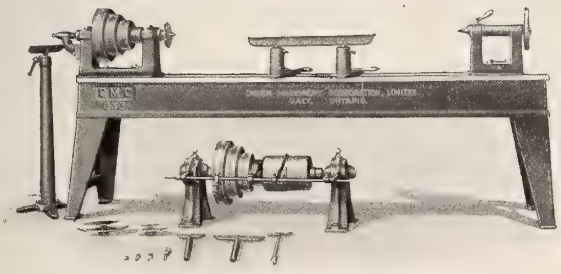


No. 561 Hollow Chisel Mortiser.

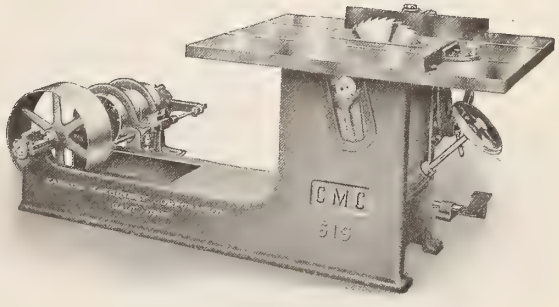
C.M.C.

Woodworking Machinery

GREAT VARIETY **PROMPT DELIVERY** **GUARANTEED SATISFACTION**



No. 833 Wood Turning Lathe



No. 619 Dimension Saw

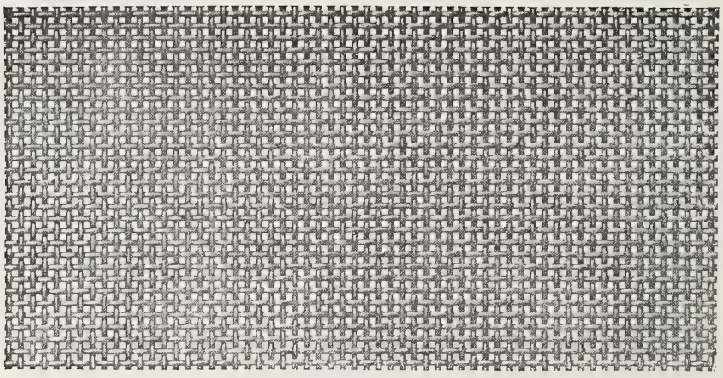
CANADA MACHINERY CORPORATION, LIMITED, GALT, ONTARIO

Toronto Office and Warerooms: Brock Avenue Subway

THE B. GREENING WIRE CO. LIMITED

MANUFACTURERS OF

WIRE CLOTH WIRE ROPE
PERFORATED METALS

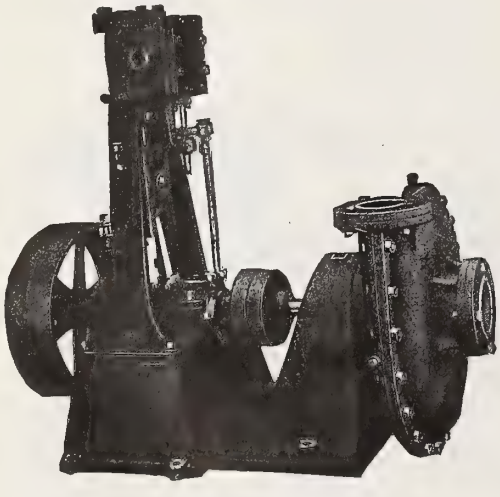


Hamilton, Ont. **Montreal, Que.**

We do everything to sell our

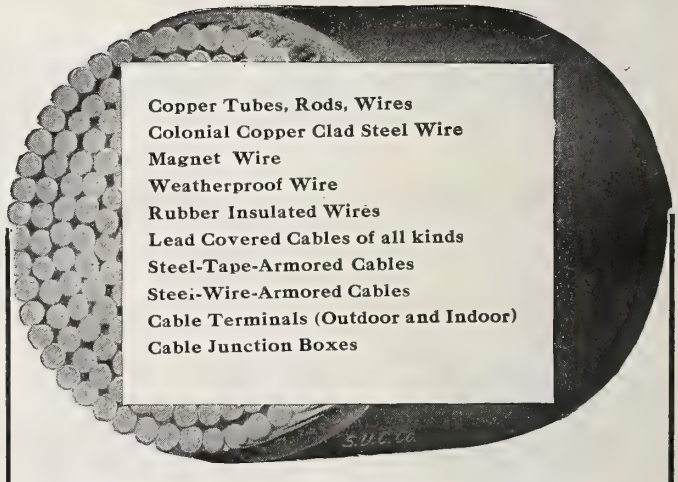
PUMPS

but misrepresent them



Give us an opportunity to show you how well we can fit your needs.

The Smart-Turner Machine Co.
Limited
HAMILTON - CANADA



WE have unexcelled facilities for meeting your every requirement of the products listed above promptly and satisfactorily. This is only an outline list of our principal products which include all kinds of electric wires and cables and cable accessories.

We will appreciate an opportunity to quote on your requirements.

Standard Underground Cable Co. of Canada, Limited

Hamilton, Ont.

Montreal Toronto Hamilton Seattle



THE BEST-KNOWN CABLE REEL IN CANADA

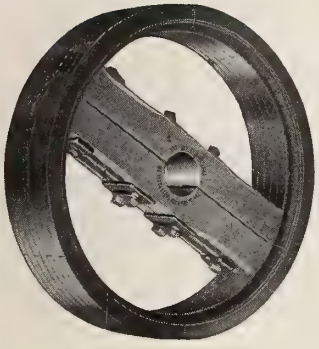
In Halifax or Vancouver, whether on the public thoroughfares of our larger cities or smaller towns, wherever there is a cable installation in progress, the reels invariably bear the name of the Northern Electric Company, Limited.

The installation may be overhead, underground or submarine. It may be for a Telephone Company, a Telegraph Company, a Railroad Company or for a street lighting system.

The quality, both of the product and the service, is largely the reason for the universal demand for Wires and Cables of Northern Electric manufacture

Northern Electric Company
LIMITED

Montreal Ottawa London Regina
Halifax Toronto Winnipeg Calgary
Vancouver



General Efficiency Demands the Use of

BERNARD
Wood Split Pulleys

The war is ended so far as a continuation of the bloody combats of the battlefields is connected. But in the war after the war there will be waged lively battles for industrial supremacy wherein the advantage will lie with the plant equipped with the most economical and durable machinery.

Competition will be more intense, and in this connection, keep your eye on the overhead. It has been looming large these past few years and must certainly come down.

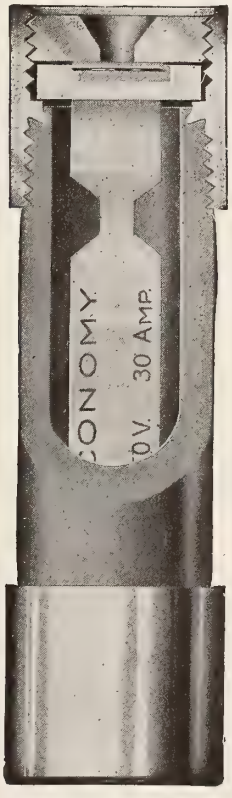
BERNARD Wood Split Pulleys will help you eliminate power waste; their cost is low, their efficiency is GREAT.

The A. Bernard Industrial Co.
Manufacturers of High-Grade Power Transmission Appliance
Office and Works: Fortierville, Que., Can.

ECONOMY
Renewable FUSES

Are commended to the practical electrician and engineer, because in performance they do all that could be asked of any fuses, and, in addition, cut annual fuse maintenance costs 80%.

This Pioneer Renewable Fuse, when blown, is instantly restored to its original efficiency by an inexpensive "Drop Out" Renewal Link—the most efficient and economical of all renewal elements.



It's the work of a moment for even a novice to replace the link and renew the fuse.

Economy Renewable Fuses are used by representative houses in all branches of industry throughout North America, and are sold by most leading jobbers and dealers.

Write for Catalogue 40

Economy Fuse & Mfg. Co. of Canada, Ltd.
Unity Bldg., MONTREAL

Manufacturers in Canada of S. & C. High Potential Fuses—to 150,000 volts

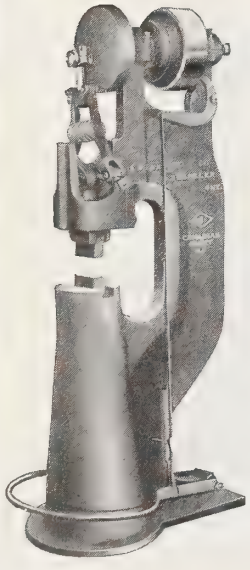
The Wm. Kennedy & Sons, Limited
Owen Sound, Ontario

Headquarters for Propeller Wheels, Ship Windlasses, Capstans, Winches, Steering Engines, Mill Gearing, Turbine Water Wheels, etc.

Iron and Steel Castings

GIVE CANADIAN SHOPS THE PREFERENCE.

JARDINE
Canadian Giant Power Hammer

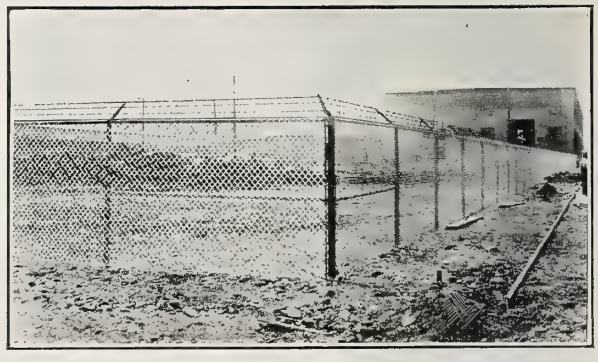


There is nothing like it for rapid and accurate production of light to medium forgings.

No. 25 forges up to 2" stock.
1½ Horse Power drives it.
Weight 825 lbs.
Price $171.00.

No. 50 forges up to 2½" stock.
2½ Horse Power required for heavy work.
Weight 1,750 lbs.
Price $275.50.

A. B. JARDINE & CO., Limited
HESPELER - ONTARIO



To Enclose Your Plant

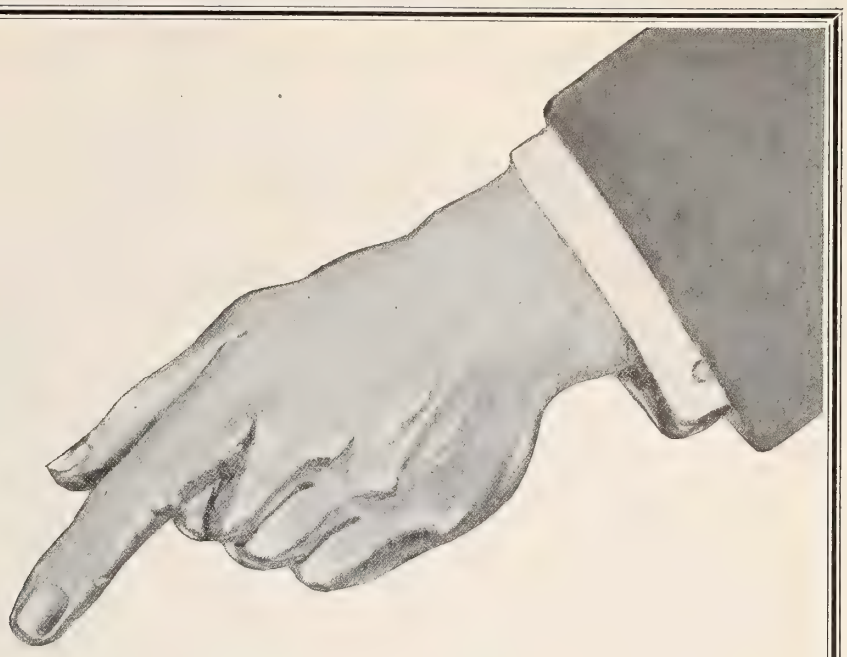
within an impassable wall of woven steel, 7 feet high and capped with an extra barrier of barbed wire, is simply inexpensive insurance. It prevents thefts of material, goods, coal, etc., keeps out intruders and cranks, foils incendiaries and trouble-makers. You know your plant is ***safe*** when you have erected a

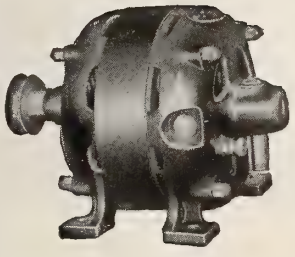
DENNIS
Chain Link Fence

This is unusually heavy fence—made for one purpose only. We have surrounded many of Canada's largest plants recently. Let us send you illustrated folders showing the use and advantages of Dennis Chain Link Fence in your case.

THE DENNIS WIRE AND IRON WORKS CO. LIMITED
LONDON
CANADA

Halifax Montreal Ottawa Toronto
Hamilton Winnipeg Calgary Vancouver





Canadian Manufacturers

who are looking for a small motor of fractiona horse-power for installing in their own products will find in C G. E. fractional horse-power motors a power unit that has stood the test of time.

For small machines requiring motor drive a C. G. E. Motor can be relied upon to give service.

Manufacturers should take into consideration that if the motor goes wrong the whole machine will be condemned by the consumer.

It is therefore evident that it is necessary to install in the first place a motor about which there is no doubt.

We have specialized in this branch of the motor business and have a complete line of standard fractional horse-power motors.

Our designing department is at your service should it be found that your product requires a special motor.

Write our nearest sales branch upon any type of motor application you may require.

CANADIAN GENERAL ELECTRIC CO., Limited

Head Office - TORONTO

Branch Offices: MONTREAL, QUEBEC, HALIFAX, SYDNEY, ST. JOHN, OTTAWA, HAMILTON
LONDON, COBALT, SOUTH PORCUPINE, WINNIPEG, CALGARY, EDMONTON
NELSON, VANCOUVER and VICTORIA

SHOW YOUR SAMPLES UNWRINKLED

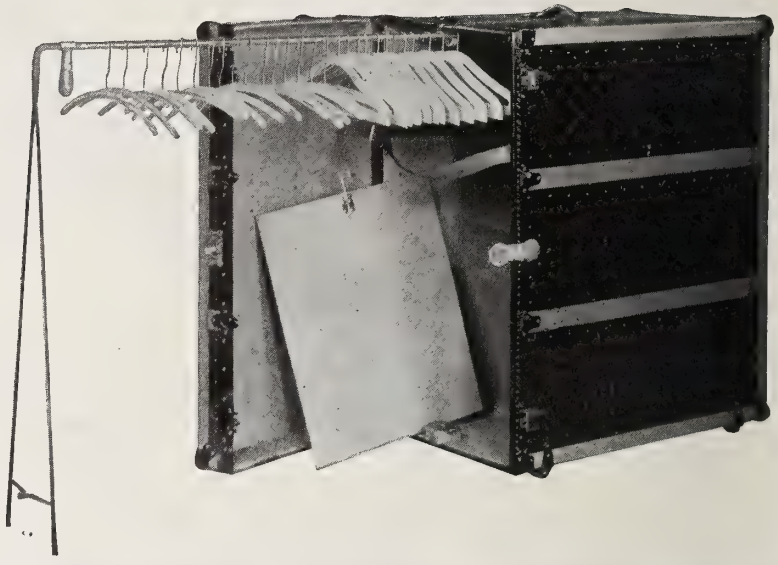
WARDROBE TRUNKS

for Suits, Coats, Dresses and Waists

WE MAKE
SAMPLE TRUNKS
AND CASES
FOR EVERY
BUSINESS

Let us know your needs and get our prices.

The M. Langmuir Mfg. Co. of Toronto
Limited



LEADERS

Chemical products, which have earned their celebrated reputation, and proven their value—by consistent practical demonstration, are the

Caustic Soda
Bleaching Powder
AND
Chloride of Lime

Made in Canada by

THE CANADIAN SALT CO., Limited
Windsor, Ontario

3

BALE TIES

Wire Nails, Mattress Wire, Fine Tinned, Coppered or Galvanized Wire

WIRE

Cut and straightened to lengths, any size, any length.

WE ALSO MANUFACTURE

Bright or Annealed, Tinned, Brush, Broom, Florists, Piano String Covering, Hat, Stovepipe, Pin, Bookbinders, Bottling, Tagging, Mattress and Spooled Wire. Also Flat Wire or Wire drawn to special shape.

The Laidlaw Bale-Tie Co., Ltd.
Wire Manufacturers
Hamilton •• Canada

A. T. DIGGINS, Stair Bldg., Toronto, Ont.
H. E. O. BULL, Montreal, Que.
HARRY F. MOULDEN, Winnipeg, Man.
MARK BRYAN, 24 Aldgate, London, E.C.

IMPERIAL

Lubricants



FREE—BUT PERHAPS WORTH HUNDREDS OF DOLLARS TO YOU

KNOWLEDGE is power. The knowledge that your machinery is 100% efficient is a potent factor in the success of your industry and this mechanical efficiency is very largely a matter of lubrication.

Imperial Lubrication Engineers are entirely at your service. Free of charge and without putting you under any obligation, they will gladly give you the benefit of their expert knowledge. They have made a close study of the lubricating needs of all types of machinery under service conditions. They offer you, therefore, a highly-specialized service.

The vital necessity of correct lubrication will prompt you to appreciate this service. Your own engineer realizes the importance of correct lubrication and will welcome a consultation. You will have the added satisfaction of knowing that you have taken every precaution to insure maximum service from your power plant.

There is one other point. You may be using the right lubricants now—lubricants which are correctly graded and accurately formulated for all types of machinery—but you may not be getting the most out of these lubricants. Imperial Lubrication Engineers will see that you are not only using the correct lubricant but using the right one for every bearing and using each in the proper way.

Imperial Lubricants

For Manufacturing, Mining and Milling

CYLINDER OILS
- Imperial Capitol Cylinder Oil
- Imperial Beaver Cylinder Oil
- Imperial Cylinder Oil
- Imperial Shield Cylinder Oil
- Imperial Ebony Cylinder Oil
- Imperial Acme Cylinder Oil
- Imperial Disc Cylinder Oil
- Imperial Dominion Cylinder Oil

ENGINE OILS
- Imperial Atlantic Red Engine Oil
- Imperial Bayonne Engine Oil
- Imperial Standard Gas Engine Oil
- Imperial Kearsarge Engine Oil
- Imperial Renown Engine and Dynamo Oil
- Imperial Solar Red Engine Oil
- Imperial Junior Red Engine Oil
- Imperial Eldorado Engine Oil

We invite your enquiries on all matters of lubrication.
Prompt replies to all enquiries addressed to us at 56 Church Street, Toronto.

IMPERIAL OIL LIMITED

Power · Heat · Light · Lubrication

BRANCHES IN ALL CITIES



Canadian Carbide

Made in Canada

SOLD THE WORLD OVER

Second to None in

QUALITY, GAS YIELD AND PACKAGE

Works:
St. Catharines, Ont.
Shawinigan Falls Que.

MANUFACTURED BY

Canada Carbide Company, Limited
MONTREAL - CANADA

Patterns of All Kinds



Castings of Iron and Brass

Offices and Works: Commercial St., Levis, P.Q., Canada

LAUZON ENGINEERING LIMITED, LEVIS, P.Q., CANADA (Opposite Quebec)

Builders of Land and Marine Engines and Boilers.
BRASS AND IRON FOUNDERS.

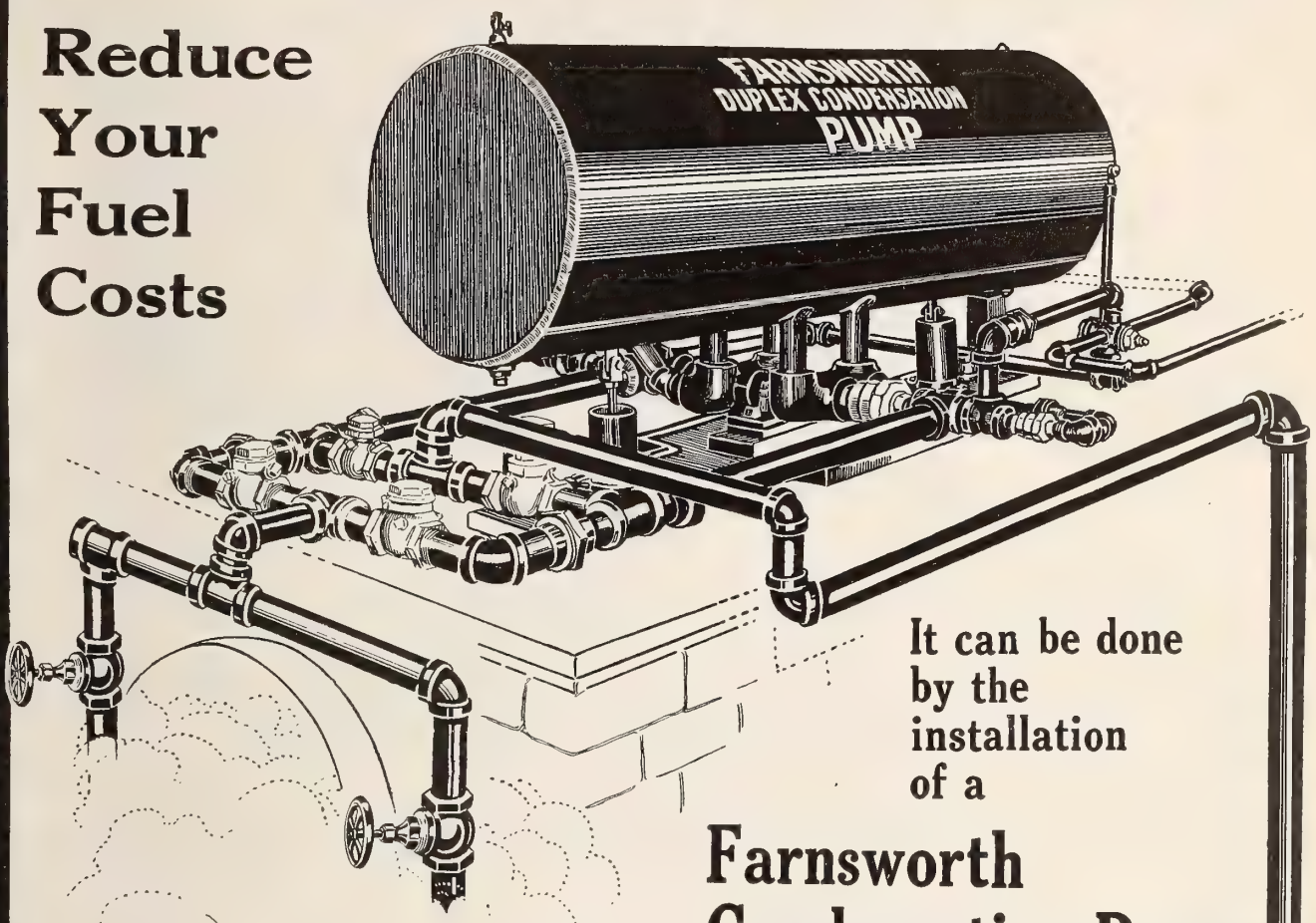
MECHANICAL REPAIRS OF ALL KINDS.
ENGINEERS AND CONTRACTORS.

Head Office and Plant: LEVIS, P.Q., CANADA

Building of Marine Boilers and Engines; also Installation of same on board ship our specialty.

Our shops formerly known as The Carrier-Laine Shops are at present the best equipped in the Province of Quebec for this class of work. Our Shipping facilities are unexcelled. We have a Deep-Water Wharf adjacent to our plant, and our yard sidings are connected with three railways—Canadian Government Railways, the Grand Trunk Railway, and the Quebec Central Railway. We make patterns of all kinds, and Castings of Iron and Brass.

Reduce Your Fuel Costs



It can be done by the installation of a

Farnsworth Condensation Pump

The Farnsworth drains lines carrying high vacuum between the engine and the condenser and will discharge the condensate to atmosphere or by the use of a small high pressure steam connection will pump the condensate to any point of use.

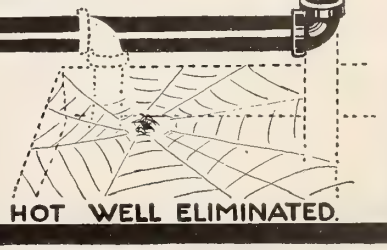
Large capacity provides a special service for taking care of any slugs of water in the exhaust line.

When the machine is in a filling position or receiving the condensation, the tank is equalized with the exhaust line and applies either high pressure steam to pump the condensate out of the tank or opens a vent valve to allow the condensation to flow to atmosphere by gravity.

This same machine will handle condensation from the exhaust line if the line should instantly change from a high vacuum to a low pressure and will pump the condensation to any point of use or to atmosphere.

Halifax, St. John, Quebec, Montreal, Ottawa, Toronto. Hamilton, Windsor, Winnipeg, Saskatoon, Calgary, Vancouver, Victoria.





The
Canadian Fairbanks-Morse
Company Limited

CANADIAN FURNACE CO.

LIMITED

PORT COLBORNE, ONT.

Manufacturers of Pig Iron

BRAND "VICTORIA"

"VICTORIA" FOUNDRY IRON

Strong—Soft—Neutral

"VICTORIA" MALLEABLE IRON

Furnished to all Standard Analyses

SOLE SALES AGENTS:

M. A. HANNA & CO.

Cleveland, Ohio

BUFFALO, N.Y. PITTSBURG, PA. DETROIT, MICH

TORONTO, ONT.



Always "on the job"

How many days last year was your motor truck idle—waiting for repair parts to cross the border?

You can avoid all such gaps of idleness and reduce your haulage expenses to the minimum by buying a National Motor Truck.

NATIONAL TRUCKS

ARE BUILT IN CANADA

They are especially designed to meet Canadian conditions and are composed of standard unit parts, all of which can be obtained immediately from our factory in Hamilton, without delay and without the bother of paying duty. The owner of a National Truck has solved his haulage problems regardless of weather, distance or conditions of streets and roads. He is sure of a truck "always on the job" every day in the year, and twenty-four hours a day if necessary.

National Trucks are built in six models—1-ton, 1½-ton, 2-ton, 3½-ton, 5-ton trucks and 6-ton tractor. There is a National Truck that will exactly take care of all your haulage requirements.

Write for Illustrated Catalogue and Name of the Nearest National Dealer

NATIONAL STEEL CAR COMPANY, LIMITED

HAMILTON, CANADA

What Trucks—Ask the Driver—*He Knows*

The National Victory Celebration Exhibition

TORONTO

Aug. 26 to Sept. 3, inclusive

THE Management thanks the Canadian Manufacturers for their splendid co-operation in the effort to make the Victory Year Fair the greatest in the history of the Canadian National Exhibition. To Exhibitors who have not already made arrangements we regret to announce that all available booths have been let and that no further space can be allotted either in the buildings or on the grounds.

JOHN G. KENT,
General Manager

LIST OF MOTORS

No.	H.P.	Phase.	Speed.	Volts.	Cycles.	Starter.	Make.
1....	15	3	1500	550	25	Yes	T.H.E.
1....	50	3	750	550	25	Yes	Can. Gen. Elec.
1....	60	3	750	550	25	Yes	Crocker Wheeler
2....	50	3	750	220	25	Yes	Lincoln
1....	25	3	750	220	25	Yes	Lincoln
1....	25	3	750	220	25	Yes	C.G.E.
1....	10	3	1500	220	25	Yes	T.H.E.
1....	3	3	1500	220	25	Yes	Westinghouse CCL
1....	½	1	1800	110	60	No	Fort Wayne
1....	¼	1	1800	110	60	No	Westinghouse
1....	¼	1	1800	110	60	No	Fisher
1....	40	2	900	220	60	Yes	Fuller Wenstrom
1....	15	2	1800	220	60	No	T.H.E.
2....	5	2 or 3	1800	...	60	No	West. CCL rewound
2....	1	2 or 3	1800	...	60	No	West. CCL rewound
1....	½	2	1800	220	60	No	Westinghouse CCL
2....	10	2 or 3	1200	...	60	No	West. CCL rewound
1....	5	..	1200	220	60	No	Union (New)
2....	3	3	1800	220	60	No	C.G.E. rewound
4....	7½	3	1800	220	60	Yes	Lincoln

TRANSFORMERS

1.... 40 K.W. Type R 2200-220 volts. Packard

PLATER

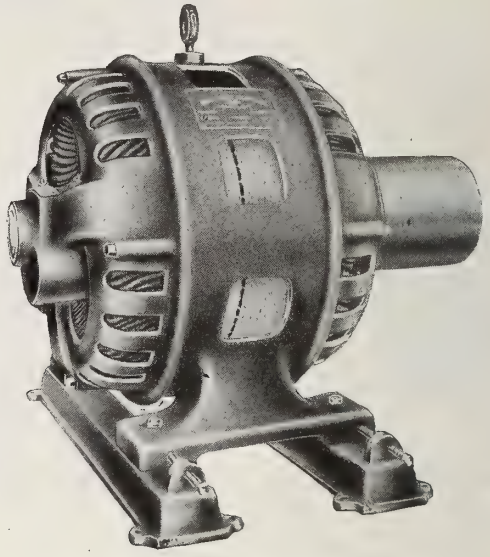
1.... Type C Ostrander Seymour 6 volt—speed 750—amp. 800

Toronto and Hamilton Electric Co Limited

99-103 McNab St. North, Hamilton

Jones & Moore Electric Co. Limited

294-300 Adelaide St. West - TORONTO



ONTARIO REPRESENTATIVES FOR

CENTURY ELECTRIC MOTORS

We make Alternating and D. C. Motors and Generators and

REPAIR ALL KINDS OF ELECTRICAL MACHINERY

Castor Oil

Cocoanut Oils

English Degras

We are direct importers of vegetable oils. Can make immediate delivery of Cocoanut and Castor Oils, English Degras and English Linseed Soap.

DOMINION OIL COMPANY
LIMITED

Royal Bank Building

HAMILTON - - ONTARIO

MUELLER

REDUCING AND REGULATING VALVES

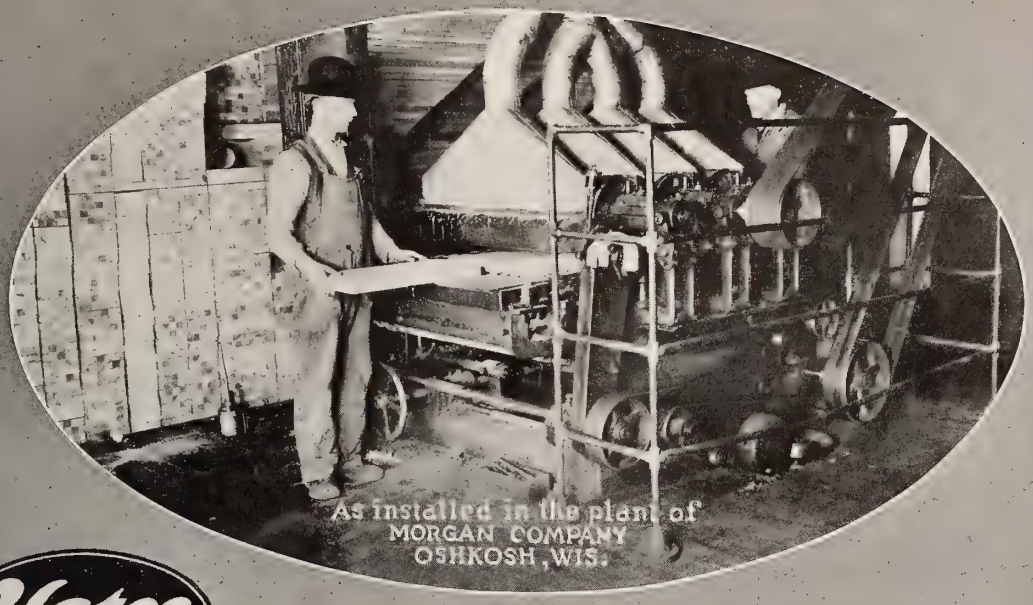
The right kind of valve is one that is adapted to your particular service. Different services under different conditions necessitate different types of valves. Don't guess. Consult us. When *MUELLER* valves are installed under our supervision we fully warrant them to control the service for which they are recommended. We make valves for water, steam, gas, air, oil and ammonia.

Victory Loan, 1918, H. Mueller Mfg. Co. Ltd., first in Canada to exceed quota and receive Honor Flag.

H. Mueller Mfg. Co. Ltd.

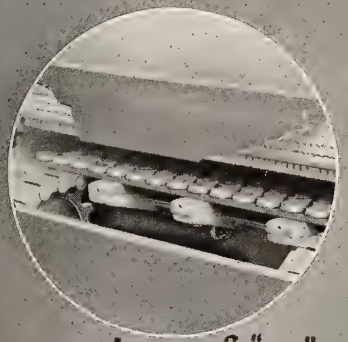
SARNIA, CANADA

The Super Sander



Yates

"The Invariable Choice of the Man Who Knows"



section of "431" showing brushes and details of Endless Bed

No. 431 ENDLESS-BED SANDER

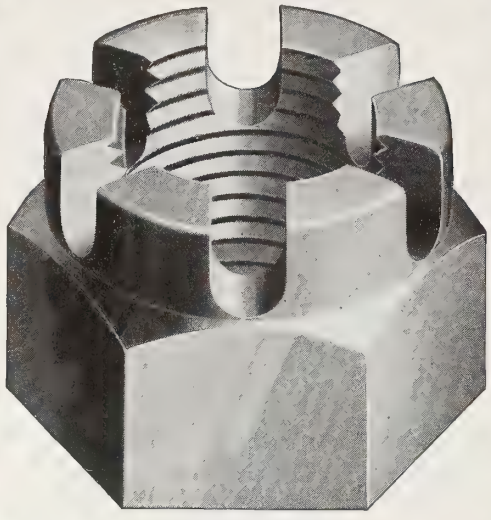
This Sander has revolutionized methods of handling short stock. The travelling bed, covered with slightly resilient rubber discs, carries the stock through the machine with minimum wear on the sandpaper.

Stock may be placed on the table and hopper-fed through the machine. Equipped with Yates Spiral Drums, the only continuous-cutting drum. Sturdily built on vibrationless base. Many exclusive features provide "short cuts to production."

Full details and sectional views are contained in our Sander Book, which will be sent free on request. Send for it to-day.

P. B. Yates Machine Company Ltd.
HAMILTON, ONT. CANADA

U.S. Plant—Beloit, Wis.



Castellated Nuts

Cap and Set Screws

PLAIN NUTS IN STOCK



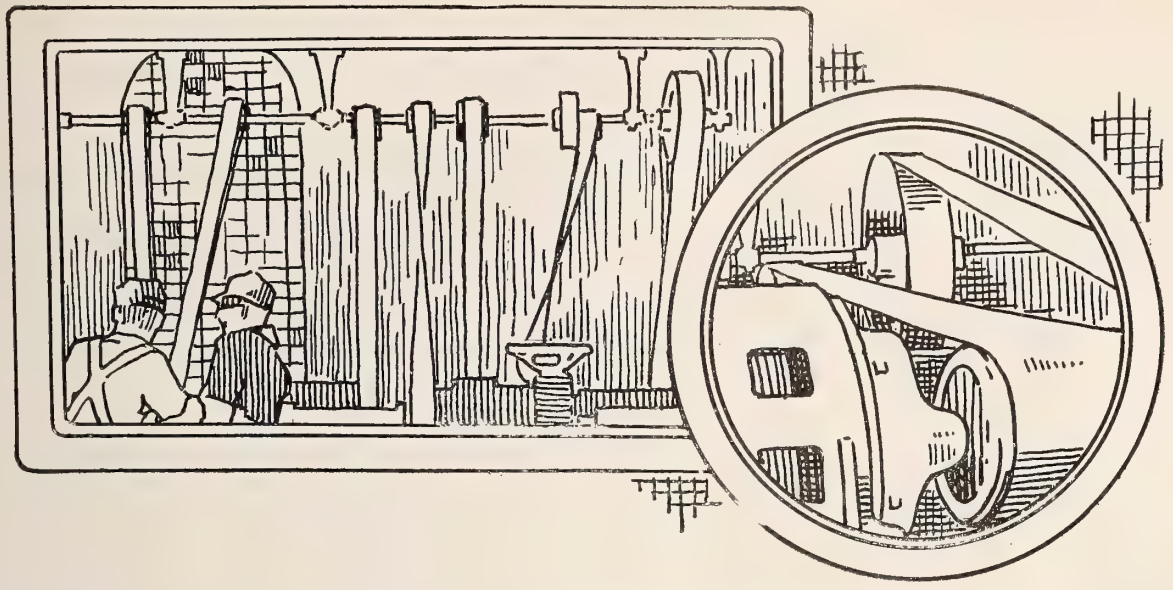
Standard sizes and threads

Special screw machine work made to specifications from Iron, Steel and Brass Bars in sizes up to 2¼" and 10½" long.

Quotations on your samples or blueprints.

The National Acme Company

De Courcelles and G. T. R. Montreal, P.Q.



Our System of Testing Insures Uniformity and Dependability in Dominion Rubber System Belting

Probably the elements that create the most satisfaction in the use of any article are an accurate knowledge of what it will do before it is made and to prove that it will efficiently accomplish its purpose after it is made.

It is on this basis that we build our belting and the knowledge of what it will do is the result of over fifty years' experience and research.

We prove by careful tests that every ounce of material is up to our high standard—each individual operation is checked as the belt proceeds from one machine to the next and a sample of the finished belt is tested, both chemically and physically, to prove that it will efficiently serve the purpose for which it was made and that it has a reserve of strength for emergencies.

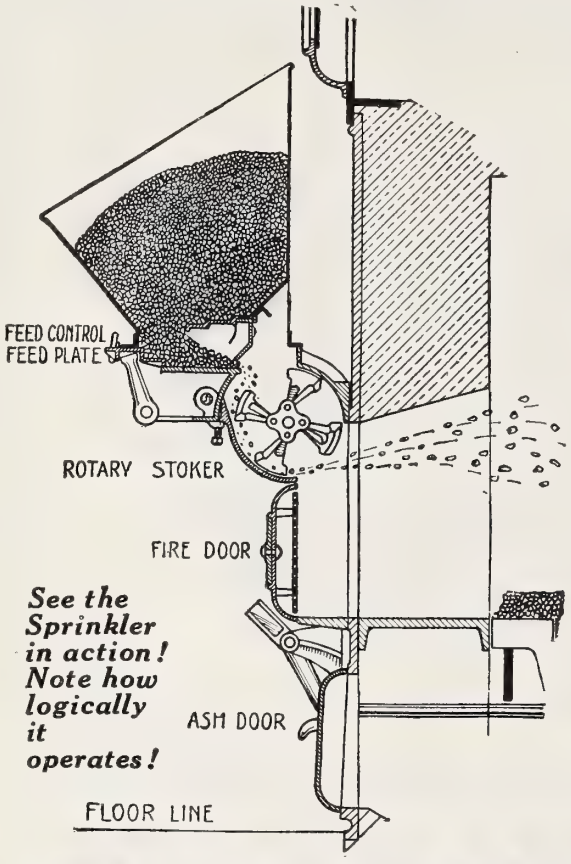
We want you to test not only our claims of superiority for Dominion Rubber System belting, but our free belting service, in charge of belting experts, who can help to cut your manufacturing costs, by making your equipment more efficient.

A phone, wire or letter to our nearest service branch will enable you to test this service without obligation.

CANADIAN CONSOLIDATED RUBBER CO. LIMITED
DOMINION RUBBER SYSTEM
AND ASSOCIATED COMPANIES

Service Branches

Halifax	London	Saskatoon
St. John	Kitchener	Edmonton
Quebec	North Bay	Calgary
Montreal	Fort William	Lethbridge
Ottawa	Winnipeg	Vancouver
Toronto	Brandon	Victoria
Hamilton	Regina	



THE GALT FOUNDRY CO., Limited

OFFICE AND WORKS:

Galt - - Ontario

PRODUCT

THE GALT SPRINKLER STOKER

For Smokeless and Economical Combustion and Utilizing Low-Grade Fuels

The Galt Sprinkler Stoker is a real Coal Saver, and can be installed on Power and Heating Boilers, Annealing Furnaces, and in all classes of Installations.

Will burn any kind of fuel from anthracite dust up to 3" lump.

ADVANTAGES

They give complete and smokeless combustion.
" feed the fuel to the furnace with the doors shut.
" do not require skilled Firemen.
" maintain a brilliantly hot fire.
" are simple, strong and beautifully made.

The Galt Sprinkler Stoker automatically feeds and uniformly spreads the fuel to the furnace in a light, continuous stream, and gives a perfectly level fire 3 to 4 inches thick.

Send for one of our Combustion Engineers to look over your plant—no obligation.

Galt Stokers Burn Cheap Fuel and Less of it

ASK FOR 10 FACTS AND 10 LETTERS ABOUT THE GALT STOKER



WRITE FOR CATALOGUE AND DETAILED

INDEX TO DISPLAY ADVERTISEMENTS

Adams Cellboard Co. 162
Algoma Steel Corporation, Ltd. 12
Andrews, H. V. 129
Armstrong, Whitworth Co. of Canada, Ltd 139
Atkins, E. C. & Co. 115

Banfield, W. H., & Sons 10
Bank of Montreal 92
Barrett Co., Ltd. 46
Bathurst Lumber Co. 113
Beatty, M., & Sons, Ltd. 106
Bennett & Wright Co., Ltd. 131
Bernard Industrial Co., The A. 29
Bertram, John, & Sons, Ltd. 5
Boiler Inspection & Insurance Co. 150
Bond Engineering Co. 26
Booth-Coulter Copper & Brass Co., Ltd., The 117
Bradstreets 96
British American Oil Co., Ltd. Inside front cover
Brown Bros., Ltd. 96
Brown Corporation 150
Brown's Copper & Brass Rolling Mills.. 20
Burlington Steel Co., Ltd. 141
Butterfield & Co. 146

Canada Carbide Co., Ltd. 34
Canada Foundries & Forging Co. 106
Canada Machinery Corporation 27
Canada Metal Co., Ltd. 139
Canada Wire & Iron Goods Co. 115
Canadian Appraisal Co. 101
Canadian Bank of Commerce 93
Canadian Blower & Forge Co. 146
Canadian Bridge Co., Ltd. 143
Canadian Carbonate Co., Ltd. 105
Canadian Chicago Bridge & Iron Co., Ltd. 150
Canadian Collapsible Tube Co. 114
Canadian Consolidated Rubber, Ltd. .... Outside back cover and 41
Canadian Crocker-Wheeler Co., Ltd. 3
Canadian Drawn Steel Co.. Ltd. 143
Canadian Fairbanks-Morse Co. 35
Canadian Furnace Co. 36
Canadian General Electric Co. 31
Canadian General Fire Extinguisher Co. .. 107
Canadian Hart Wheels, Ltd. 22
Canadian Industrial Alcohol Co., Ltd. 121
Canadian Ingersoll Rand Co. 14
Canadian Link Belt Co. 104
Canadian Mathews Gravity Carrier Co. .. 110
Canadian National Exhibition 31
Canadian National Railway 151
Canadian Oil Cos. 124
Canadian Pacific Railway 149
Canadian Pulp and Paper Association.... 21
Canadian Rumely Co. 144
Canadian Salt Co., Ltd. 32
Canadian Steel Foundries 127
Canadian Tube & Iron Co., Ltd. 141
Canadian Westinghouse Co., Ltd. 44
Caron Bros. 105
Chapman Double Ball Bearing Company of Canada, Ltd. 123
Clarke, A. R., & Co., Ltd. 133
Conduits Co., Ltd. ..... Inside back cover
Consolidated Mining & Smelting Co. of Canada, Ltd. 2
Clyde Motor Truck Co. 25

Dart Union Co.. Ltd 1
Delaney & Pettit, Ltd. 99
Deloro Smelting & Refining Co. 6
Denis Wire & Iron Goods Co. 30
Dodge Mfg. Co. 13
Dominion Abrasive Wheel Co., Ltd. 134
Dominion Bridge Co., Ltd. 137
Dominion Copper Products Co. 123
Dominion Forge & Stamping Co. 136
Dominion Foundries & Steel, Ltd. 128
Dominion Oil Co. 38
Dominion Tar & Chemical Co., Ltd. 139
Dominion Wire Rope Co. 143
Doon Twines, Ltd. 145
Dunham, C. A., Co. 3
Dunlop Tire & Rubber Goods Co., Ltd. .. 18
Dupon Fabrikoid Co. 134
Dominion Beltlng Co. 111
Dominion Sheet Metal Co. 152

Economy Fuse & Mfg. Co. 29
Eddy, E. B., & Co., The 125
Elder, Dempster & Co., Ltd. 148
Electric Steel & Metal Co., Ltd. 129
Engineering & Machine Works 122
Eureka Mineral Wool & Asbestos Co. 129

Foley & Co., Jas. W. 118
Foundation Co., Ltd. 102

Galt Foundry Co. 42
Galt Knife Co. ..... Inside front cover
Galt Malleable Iron Co., Ltd. 126
Gardner, R., & Sons, Ltd. 126
Garlock Packing Co. 117
Gibbons. J. J., Ltd. ..... Outside front cover
Goderich Organ Co., Ltd. 96
Goldie & McCulloch, Ltd., The 19
Goodhue, J. L., & Co., Ltd. 132
Grace & Co., Ltd. 1
Grasselli Chemical Co., Ltd., The 135
Gray, J. V., Construction Co. 129
Greening, The B., Wire Co., Ltd. 28
Gutta Percha & Rubber Manufacturing Co. of Toronto, Ltd. ..... Inside back cover

Hamilton Bridge Works, Ltd. 115
Hamilton Gear & Machine Co. 6
Hamilton Motor Works 106
Hay Knife Co., Ltd., The Peter 162
Hinde & Dauch Paper Co. of Canada, Ltd., The 135
Howard Smith Paper Mills, Ltd. 98
Hoyt Metal Co. 111
Hydraulic Machinery Co. 9

Imperial Bank of Canada 82, 83, 92
Imperial Oil Co., Ltd. 33
Inglis, John, Co., Ltd. 23
International Business Machines, Ltd. ... 84-85

Jardine, A. B., & Co. 30
Jenkins Bros., Ltd. 11
Jones, J. L., Engraving Co., Ltd. 138
Jones & Moore Electric Ct., Ltd. 38
Jones Underfeed Stoker Co. 10

Kennedy, Wm., & Sons., Co. 30
Kerr Engine Co., Ltd. 122

Laidlaw Bale-Tie Co., Ltd. 32
Langmuir Mfg. Co. 32
Lauzon Engineering, Ltd. 34
Leonard, E., & Sons 16
Leslie, A. C., Co. ..... Inside back cover

Macdonald Manufacturing Co., Ltd. 136
MacKinnon Industries, Ltd. 101
MacKinnon Steel Co., Ltd. 110
Macdonald, W. C., Reg. 124
Mahaffy, W. S., Co. 119
Maritime Bridge Co. 143
Massey-Harris Co., Ltd. 8
Maples, Ltd. 118
McClary Manufacturing Co. 112
McGregor & McIntyre, Ltd. 120
McLaren, D. K., Ltd. 132
McLaren, J. C., Belting Co., Ltd. 133
Meadows, The G. B., Iron & Brass Works Co., Ltd. 7
Merchants Bank 95
Milton Hersey Co. 119
Montreal Cottons, Ltd. 145
Montreal Locomotive Works, Ltd. 128
Morris, The Herbert, Crane & Hoist Co., Ltd. 8
Morrow, John, Screw & Nut Co., Ltd..... 125
Mueller Mfg. Co. 38

National Steel Car Co. 7
National Acme Mfg. Co., The 40
New Zealand Shipping Co., Ltd., The .. 148
Nichols Chemical Co., Ltd., The 131
Nicholson File Co. 142
Northern Aluminum Co., Ltd. 131
Northern Crane Works, Ltd. 16
Northern Electric Co., Ltd. 29
Nova Scotia Steel and Coal Co.. Ltd. 26

Office Specialty Mfg. Co. 90
Ontario Government Notices 152
Ontario Wind Engine & Pump Co., Ltd.. 147
Ormsby, A. B., Co., Ltd. 17
Otterville Mfg. Co., Ltd. 144

Pedlar People 22
Penmans, Ltd. 145
Perrin, Wm. R., Ltd. 144
Pratt & Whitney Co. 4
Prest-O-Lite Co. 24
Purdy, Mansell, Ltd. 147

Ramsay & Son Co., A. 22
Richards-Wilcox Canadian Co., Ltd. 2
Richie & Ramsay Paper Co. 99
Ridout & Maybee 114
Riordan Sales Co. 96
Rolland Paper Co., Ltd., The..... 94
Royal Bank of Canada 93

Scythes & Co. 140
Shipman, Harold C., & Co. 86-87-88
Shurley & Derrett, Ltd. 140
Smart-Turner Machine Co. 28
Standard Chemical, Iron & Lumber Co. .. 137
Standard Underground Cable Co. 28
Stanley Steel Co., Ltd. 16
Steel Co. of Canada, Ltd., The 103
Steel Trough & Machine Co., Ltd. 150

Tallman Brass & Metal Co., Ltd. 127
Thompson & Norris Co. of Canada, Ltd. Outside back cover
Thorne, Mulholland, Howson & McPherson 96
Toronto Hydro-Electric System 147
Toronto Iron Works ..... Inside front cover
Toronto & Hamilton Electric Co. 38
Trades & Labor Branch 152
Trussed Concrete Steel Co. of Canada, Ltd. 15

Union Bank of Canada 95
Union Drawn Steel Co., Ltd., The 141

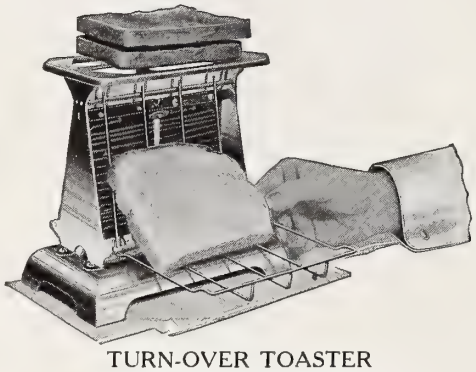
Waterous Engine Works Co. 120
Wells and Gray 109
Wrigley, The Wm. Co., Jr. 131

Yates, P. B. Machine Co., Ltd. 39

For Buyers' Guide see page 153

Westinghouse

Electric Household Devices



TURN-OVER TOASTER
Turning the knob, turns the toast
No danger of burning fingers.



Westinghouse Electric Irons concentrate all heat at the ironing surface, radiation from the top being prevented by a dead air space.



Westinghouse Type 3-19B Automatic Electric Range. All parts accessible, and easily removed for cleaning.

Westinghouse Electric Ranges, Turn-over Toasters and Irons are built for reliable, durable, efficient service; constructed to please the most critical house-wife.

Other Westinghouse Electric household devices such as percolators, samovars, toaster-stoves, hot plates, chafing dishes, etc., are equally popular.

Owners of Westinghouse apparatus are invited to make use of our service Dept. Repair Shop, where repair work will receive prompt and efficient attention. Repair shops are located at:-
Montreal-10 St. Sophie Lane. Toronto-16 Temperance St.
Winnipeg-158 Portage Ave. E. Calgary-328 9th Ave. W.

Canadian Westinghouse Company, Limited, Hamilton, Ontario

TORONTO Traders Bank Bldg. | MONTREAL Guarantee Co.'s Bldg. | OTTAWA Ahearn & Soper, Ltd. | HALIFAX 105 Hollis St. | FORT WILLIAM Cuthbertson Block
WINNIPEG 158 Portage Ave. E. | EDMONTON 211 McLeod Bldg. | CALGARY Canada Life Bldg. | VANCOUVER Bank of Ottawa Bldg.

INDUSTRIAL CANADA

Issued monthly as the official publication of the Canadian Manufacturers Association (Incorporated), and devoted to the advancement of the industrial and commercial prosperity of Canada.

PRESIDENT OF THE ASSOCIATION
W. J. Bulman, Bulman Bros., Limited.....Winnipeg

VICE-PRESIDENTS
T. P. Howard, Phenix Bridge & Iron Works, Ltd. ...Montreal
J. S. McKinnon, S. F. McKinnon & Co., Limited...Toronto

PUBLICATION COMMITTEE
J. F. M. Stewart (Chairman).....Pointe Anne Quarries, Ltd.
J. S. McKinnon.....S. F. McKinnon & Co., Limited
J. F. Ellis.....Barber-Ellis, Limited
J. Allan Ross.....Wm. Wrigley Jr. Co., Limited
J. F. MacKay.....Russell Motor Car Co., Limited

INDUSTRIAL CANADA DEPARTMENT
Advertising Manager.....D. B. Gillies
Acting Editor.....W. A. Craick

OTTAWA OFFICE (217 Booth Building)
Representative.....G. M. Murray
Assistant.....E. Blake Robertson

C.M.A. OFFICIALS
Head Office, Toronto

General Manager.....J. E. Walsh
General Secretary.....J. T. Stirrett
Manager, Transportation Department.....J. E. Walsh
Assistant Manager, Transportation Department..S. B. Brown
Managers, Insurance Department..Willis, Faber & Co., Limited
Manager, Tariff Department.....J. R. K. Bristol
Manager, Commercial Intelligence Department..Alex. Marshall
Secretary, Legal Department.....H. Macdonald
Manager, Trade Sections Department.....J. M. McIntosh
Office Manager and Accountant.....J. Winfield

BRANCH SECRETARIES
Montreal Branch.....W. P. Hughes, Montreal
Toronto Branch.....H. Macdonald, Toronto
Prairie Provinces Branch.....G. E. Carpenter, Winnipeg
Maritime Provinces Branch...H. R. Thompson, Amherst, N.S.
British Columbia Branch.....H. Dalton, Vancouver, B.C.

CONTENTS OF THIS ISSUE

Editorial Comment 47
Bolsheviki control of factories—A sympathetic strike—The Royal Commission on Industrial Relations—Policemen and firemen.

Toronto Branch Reviews its Work .....H. Macdonald 51
Proceedings of nineteenth annual meeting—Net gain in membership during the year—Resolutions passed and officers elected.

Successful Annual of Montreal Branch.....W. P. Hughes 57
Branch makes net gain of 34 members—Committee reports evidence much good work—Address of retiring chairman in full.

Maritime Branch Holds Annual at Halifax.....H. R. Thompson 62
Good attendance of members—Several interesting addresses—Angus McLean elected chairman—A number of important resolutions adopted.

Prairie Provinces Branch Reviews its Year.....G. E. Carpenter 63
Membership now stands at 526, a gain of 10 for the year—Much effective work accomplished by Legislation and Transportation Committees.

British Columbia Branch Makes Progress.....Hugh Dalton 67
Report presented shows large gain in membership during the year —Useful work being done by the various committees.

Some Observations on Present-Day Unrest.....S. R. Parsons 69
Extremists and well-meaning theorists would overturn present civilization—Sane workers should be met in spirit of brotherhood.

Some Notes on the Purchasing Agent's Job.....John L. Thorne 73
Selection of materials a man-sized job—How to keep stock at lowest point consistent with production—The problem of deliveries.

Use of the Metric System in Export Trade.....F. H. Halsey 76
From shovels to watches and from wheelbarrows to automobiles, the units of measure to which goods are made have nothing to do with saleability.

The Position of Maple Sugar Substitutes.....L. J. Rogers 100
Because of misrepresentation these products barred from market— Their desirability as food recognized—Should be permitted a free sale.

Among the Industries 80
Office and Finance 91
Good Things from other Magazines..... 108

SUBSCRIPTION
Two Dollars per Year Single Copies 20 cents
Advertising Rates made known on application

OFFICES
1404 BANK OF HAMILTON BUILDING
TORONTO

Made in Canada



Alma Street, St. Thomas, Ont. Constructed with "Tarvia-X" in 1914. Treated with "Tarvia-B" 1918.

A Dustless, Mudless Street

THIS attractive residential street in St. Thomas carries considerable automobile traffic. If plain macadam had been used, the abutting residents would have complained of the dust. In wet weather, and especially in spring when the frost is coming out of the ground, they would have been complaining of mud.

The fact is, however, the people who live on this street have forgotten all about dust and mud, for the roadway is smooth and clean, dustless and mudless every day in the year. Their thanks are due to the fact that the enlightened city authorities use Tarvia in the road to bind it together and make it automobile-proof. The powerful wheels that used to rip up the surface now merely smooth it down, for the surface instead of being brittle is now slightly plastic and very tenacious.

The difference which Tarvia makes in the character of the surface is illustrated by the fact that if you drive a pick into plain macadam you spoil the surface and throw up dust and broken stones, whereas the same blow on a Tarvia surface will make a round smooth dent.

Tarvia makes the road frost-proof and when the snow melts away in the spring the surface is clean, smooth, quick-drying and firm. The frost does not have to come out of the road because the frost never gets in.

Tarvia
Preserves Roads
Prevents Dust

The principal reason for using Tarvia, however, is the fact that it saves money. The maintenance of macadam by the Tarvia method is the least expensive and the most effective of all methods.

Towns that adopt Tarvia enjoy large net economies and at the same time secure better roads.

Illustrated booklets describing the various grades of Tarvia will be sent to any one upon request. Address our nearest office.

Special Service Department

This company has a corps of trained engineers and chemists who have given years of study to modern road problems. The advice of these men may be had for the asking by any one interested.

If you will write to the nearest office regarding road problems and conditions in your vicinity, the matter will have prompt attention.

The Barrett Company
LIMITED

MONTREAL TORONTO WINNIPEG VANCOUVER
ST. JOHN, N. B. HALIFAX, N. S. SYDNEY, N. S.

INDUSTRIAL CANADA

ISSUED BY

The CANADIAN MANUFACTURERS ASSOCIATION.

INCORPORATED.

Vol. XX. TORONTO, JUNE, 1919 No. 2

Editorial Comment

Shipping

IT will be very serious if the coming autumn finds the Canadian farmer and the Canadian manufacturer unable to ship their products to the waiting markets of Europe through lack of ocean space. The Government is making, we believe, great efforts to provide the necessary tonnage. This is a difficult problem in view of the world's shortage of ships, but we hope that no efforts will be spared to secure at least a great part of the shipping which will be required.

Export Trade

AS the gross public debt of Canada has been multiplied by five during the war, it is evident that the burden of taxation will be greatly increased. Canadians up to the present have not known the meaning of the word "taxation." Prior to the war we had no army and no navy; our fertile soil produced plenty of food, and real privation was unknown. We have now to pay the bills of the war. To do this we will have to work hard and save money. It is especially important that we increase our export trade, in order to restore the adverse trade balance and unfavorable exchange to more normal conditions.

Labor Legislation

THE Peace Treaty will contain certain clauses which aim at the establishment of international standards governing labor conditions. This will remove one of the greatest obstacles that have barred the way to improvement of industrial conditions. If one country, for example, determined to enact legislation which would greatly improve the conditions, that country would be immediately placed at a disadvantage with competing countries which could produce more cheaply through the existence of their low standards of living. When demands are considered for legislation concerning labor in Canada, it must be remembered that this is a young country commercially and industrially. As a general rule we cannot establish and maintain labor conditions until these conditions have been established in Great Britain, France and the United States, the three leading nations of the world. We should follow, but we cannot lead.

Industrial Research

THE action of the Government in deciding to provide for industrial research and technical education is most encouraging for Canadian industry. We have been greatly handicapped by our lack of facilities for the investigation and study of these subjects, and we are far behind other countries in this respect. An entire industry may be created or destroyed by the discovery of some very simple constituent of a manufacturing process. Is it not then important that we should have special laboratories constantly at work discovering and analyzing processes which may have such a tremendous effect upon the industrial life of the country?

Preferential Tariffs

NOW that the British Government has officially adopted the principle of preferential tariffs within the Empire, it is well to remember that Canada was the first of all the British countries to extend preferential tariff treatment to the United Kingdom, and to-day the preferences which Canada gives to other British countries are on the whole very much greater than the preferences which she receives from them. We hope to see a system of preferential tariffs established and maintained throughout the Empire, and that such preferences will equal those now extended by Canda.

The Royal Commission on Industrial Relations

THE Royal Commission on Industrial Relations has almost finished its sessions. During its progress through Canada, the Commission has heard an extraordinary number of theories dealing with the constitution of society, politics, industry, and even religion. It is interesting to note how some old theories which have been knocking about Europe for the last 200 years have again come to life. Communism, collectivism, socialism, and syndicalism were all there, though sometimes in new

Annual Meeting Canadian Manufacturers

clothes. Although the criticism was chiefly destructive, there is no doubt that the work of the Commission on the whole should be of considerable value. Publicity will kill most of the impracticable theories through ridicule. What is good may be used for constructive purposes.

Industrial Re-organization

THE present industrial system is being subjected at present to fierce criticism, but it is noticed that there are few practical suggestions advanced to substitute for it a better system.

We understand that the international labor unions have great reserves. The various bodies which have been pub lishing advanced views on industrial re-organization are not without funds. Let them take some of these funds and build a model factory and operate it according to their ideas. When we see their theory practically demonstrated in this matter we shall be better able to decide whether or not our present methods need radical change.

Policemen and Firemen

POLICEMEN and firemen are more nearly related in their duties to soldiers and sailors than they are to trade unions. If the army and navy strike on account of alleged grievances, such action is called mutiny and punished accordingly. When policemen and firemen strike, all the lives and property of the entire community which they serve are deprived of that protection to which they are entitled. It is almost impossible to imagine the Royal Northwest Mounted Police striking, and it is difficult indeed to justify the desertion of duty by other policemen. When policemen, admitting that they have no personal grievances, desert their posts and break their agreements to join a sympathetic strike, their usefulness as public servants is destroyed.

Canadian vs. United States Tariff

IN comparison with the United States, Canada has been a low tariff country. When the Republicans were in power, the United States tariff as a general rule, was nearly double the Canadian tariff. When the Democrats, who advocated tariff for revenue only, were in power, there was a general reduction. It is interesting to note, however, that, exclusive of the special war tariff which was levied on all imports both dutiable and free, the Canadian tariff during the fiscal years of 1916, 1917 and 1918 was still considerably lower than the American tariff.

The total value of dutiable goods imported into the United States during that country's fiscal year, 1916, amounted to $705,236,160. The total amount of customs duties collected on these importations of dutiable goods was $211,866,222. Thus the average rate that year on dutiable goods was 30 per cent.

The value of dutiable goods imported into the United States for that country's fiscal year 1917, was $810,514,665. The duties collected on these dutiable imports amounted to $225,981,934. Thus the average rate on dutiable goods that year was 27.8 per cent.

The total value of dutiable imports under the United States tariff for the fiscal year 1918, was $827,460,031. The duties collected on these dutiable imports amounted to $179,998,383. Thus the average rate for 1918 was 21.7 per cent. on dutiable imports.

In Canada during the fiscal year ending March 31st, 1916, the total dutiable imports amounted to $289,366,527. Duties were paid on these dutiable imports amounting to $103,940,100. Of this amount the special war tax represented $25,256,787. Thus the average rate on dutiable goods, exclusive of the customs war tariff, was 27 per cent.

In 1917, Canada's dutiable imports amounted in value to $461,733,609. On these dutiable imports customs duties were paid amounting to $147,631,454. On this amount the customs war tax was $37,830,427. Thus the average ad valorem rate of duty on dutiable goods, exclusive of the war tariff, was 23.7 per cent.

In the year ending March 31st, 1918, Canada's total value of dutiable imports amounted to $542,341,522. On this amount customs duties were paid amounting to $161,595,628. Of this the customs war tariff represented $45,081,562. Thus the average ad valorem rate on dutiable goods, exclusive of the war tariff, was 21.4 per cent.

Bolsheviki Control of Factories

BY the aid of a mercenary army the Bolsheviki rulers of Russia attempted to put their theories in regard to the management of industry into practice. The result of their efforts is indicated in the British Government's White Paper entitled "Bolshevism in Russia," which was published in April of this year. This document is a compilation of reports and letters from various agents and British citizens in Russia. The following is a report from a manager of a factory near Moscow, who escaped from Russia:

"For the past year workers have been in control of all mills, and as an example of methods adopted, I state below the conditions appertaining at the mill where I was general manager, a mill employing 6,500 workers, two-thirds of whom were women, and one-third men. In the first instance a committee was elected from the workers by the workers. The committee consisted of 24 men, and from these the following three sub-committees were formed:—

(1) Controlling Committee, consisting of six.
(2) Food Committee, consisting of four.
(3) The Enlightening Committee, consisting of four.

The remaining ten formed the Presidium or Council.

The Presidium sat every day in a house in the mill-yard from 9 a.m. till 3 p.m., and the President of the Workers'

Association, Toronto, June 10th, 11th, 12th

Committee always presided at the sittings of the Presidium. The duties of the Presidium were to receive all complaints from the workers, and adjust them to the workers' benefit, whether the complaint was of a reasonable nature or otherwise. The result was a continual unnecessady and annoying interference with the inside management of the mill. For instance, should the spinners complain, say, that No. 14 yarn is working badly, they would call for the man superintending the material department, and tell him to put in higher material, without taking into consideration the loss incidental to such procedure. It was therefore a constant battle to prevent the Presidium from doing this manner of injurious actions. The duties of the Controlling Committee are to control all buying and selling in connection with the mill. No money can be paid for goods delivered, or for work done, without their signature. Nothing can be bought without their consent, and all articles bought in the district must be bought by the members of the committee themselves. Owing to this, these men, having no idea of the quality of an article, very often buy inferior goods at higher prices than would be given by an expert. They control every action of, and are constantly interfering with, the administrative staff, and so confuse and bother the men employed on this work until they are unable to perform their duties, and lose all interest and initiative.

The Food Committee look after the obtaining and distribution of foodstuffs, and are constantly travelling all over the country seeking food, but are very unsuccessful in this purpose, and therefore have very little to distribute.

The duties of the Enlightening Committee are rather obscure, but appear to consist first of the propagation of Socialistic principles, and they do this by buying literature of a Socialistic nature, of course, for the Workers' Club, and second in providing amusements for the workers by organizing concerts, dances, etc. The great desire of the members of all these committees seems to be to get commandeered either by the general meeting or by their own committee, upon the grounds of urgency to go to some other town or district for some reason or other, and when they are on these expeditions they receive fifty roubles per day for their expenses, besides their daily wage, which is paid out of the mill funds, and very often they have the possibility of receiving a good round sum by way of bribes when buying something for the mill. All these committees, though elected in the first instance by the majority of the workers, are now practically self-elected, as the majority of the workers are so inert, uninterested, and tired of the whole Bolshevik system that they do not trouble to attend for the purpose of voting. The elections generally take place at meetings with not more than 300 or less workers present out of the 6,500, and the members of the committee have generally prearranged who will be chosen, and have their supporters who arrange matters as required.

All these committees very soon lose the trust of, and are not in favor with those who have elected them, but are generally re-elected as stated before, and again the same things go on."

Do we want this system in Canada?

A Sympathetic Strike

THE general strike is failing to achieve its object. If the principle of the general strike is admitted, the transaction of business becomes impossible. One out of a hundred unions, for example, determines to strike; the other 99 are ordered by a central body to stop work, break their agreements with their employers, and to mass their entire strength behind the striking union. It is apparent that this method would place in the hands of a few extremists a mighty engine which could be directed against employers in such a way as to paralyze business, by a continual succession of strikes.

"Sympathetic strikes must always fail," says Hon. Gideon D. Robertson, Dominion Minister of Labor, who has done such splendid work in assisting to restore order at Winnipeg.

The following statement by Mr. Robertson in regard to the situation is well worth reading, and shows the attitude of the leading labor men in Canada towards the general strike:

"The promoters of the general strike in Winnipeg now sit in the ashes of their folly. Something like 30,000 men and women were called out, professedly for the purpose of enforcing the recognition of the right of collective bargaining. In responding to the call the majority violated and repudiated their obligations to their own trade unions and their contracts with their employers. Individually and collectively they wilfully discarded their agreements, indicating that the possession of what they are contending for is of little value.

"Labor organizations which require that contracts made be fulfilled merit and command the respect of employers, of the public and of Governments. Labor leaders who advocate that only might is right, who hold that law, justice and honor should be discarded at will, merit and receive the condemnation of all good citizens.

"If an employer or a number of employers in a given industry deny to their workmen the right to bargain collectively for the sale of their services, the economic force of the workmen may properly be directed against the offender, and the public will approve and sympathize. In a general sympathetic strike the force is directed against the whole community, who are innocent of any responsibility for the offence. Public indignation is immediately aroused because of the inconvenience, loss and suffering imposed upon innocent people. Therefore, sympathetic strikes must always fail.

"Socialism has long recognized that the trades unions are an impassable bar to its revolutionary programme, and seeks through the One Big Union movement to undermine and destroy the Labor organizations, whose policy is to regard thier obligations as sacred and inviolate. It has chosen the One Big Union idea as a popular primrose path along which to lead the trade unionist, urging him to discard his honorable obligations and join the big show.

"In March last at Calgary the play was written. The Winnipeg strike is its first rehearsal, with the main performance promised for a later date. The Winnipeg rehearsal has cost approximately two million dollars in wages lost in Western Canada, and has proven the play to have been badly written, and unpopular with both the public and most of the performers.

"Employers must not mistake the outcome of the general sympathetic strike as a defeat to organized Labor. On the contrary, Labor will emerge from the conflict strengthened with the wisdom gained from its experience. Numerous strong Labor organizations have, by their voice and actions, largely contributed to the outcome because they believe the general sympathetic strike is wrong, vicious and demoralizing. Employers should rather seek to deal justly, and at this period liberally, with their workmen, and assist the bona fide Labor unions in their legitimate efforts to obtain a reasonable competence for all who are willing to labor."

N.F.P.A. CONVENTION

HELD AT OTTAWA, PASSED IMPORTANT RESOLUTIONS IN REGARD TO FIRE PREVENTION

At the joint invitation of the Dominion Fire Prevention Committee, the Dominion Department of Insurance and the Commission of Conservation, the annual convention of the National Fire Protection Association was held at Ottawa on May 5th, 6th, 7th and 8th. Nearly 300 delegates from the United States and a large number from all parts of Canada attended the meetings. The sessions were replete with discussions and reports of a most interesting nature, in which the means of safeguarding life and property from destruction by fire were presented. Much stress was laid upon the necessity of convincing the public of the value of fire prevention, and several of the speakers emphasized the fact that the majority of fires resulted from negligence and could only be eliminated by enforcing a greater measure of carefulness upon those immediately responsible for the safe maintenance of property. The committee on resolutions presented the following, which were unanimously adopted:

1. The adoption by municipalities of a Standard Building Code to the end that fire-resistive building construction may be encouraged, the use of inflammable roof coverings prohibited, adequate exit facilities from buildings assured, and interiors so designed and fire-stopped as to make easy the extinguishment of fires therein.

2. The adoption by all provinces of minimum building requirements for the protection of Provincial and county hospitals, schools, asylums and similar institutions outside city limits and of small communities in which the establishment and enforcement of a building code is impracticable.

3. The enactment by each province of a fire marshal law to the end that official investigation may be made of the causes of all fires, preventable fires may be eliminated by public education, and the crime of arson stamped out.

4. The adoption of ordinances providing for the systematic inspection of all buildings by city fire marshals or local firemen to insure the vigorous enforcement of rules for cleanliness, good housekeeping and the maintenance of safe and unobstructed exits, fire-fighting apparatus and other protective devices.

5. The enactment of ordinances fixing the cost of extinguishing preventable fires upon citizens disregarding fire prevention orders, and a more general legal recognition of the common law principle of personal liability for damage resulting from fire due to carelessness or neglect.

6. The wider general use of the automatic sprinkler as a fire extinguishing agent and life saver and the more general adoption of the fire division wall as an important life-saving exit facility.

7. The universal adoption and use of the safety match and legislation prohibiting smoking in all parts of factories, industrial and mercantile buildings, except in such fireproof rooms as may be specially approved for the purpose by fire departments.

8. The education of children and the public generally in careful habits regarding the use of fire.

9. The universal adoption and exclusive use of slow-burning motion picture film, with national, provincial, and local legislation to prevent the continued manufacture and distribution of material having the hazardous properties of the guncotton stock now commonly employed.

10. The co-ordination of all these activities through a central administrative officer or body of the province or city having primary jurisdiction for the purpose of promoting uniformity of action and efficient co-operation.

It was felt by the delegates in general that the Ottawa convention accomplished much in stimulating and encouraging the fire prevention movement in both Canada and the United States. This feeling was thus summarized by *Fire Protection,* the official organ of the Fire Marshals' Association of North America:

"The National Fire Protection Association went to Canada with its convention this year, thinking that the holding of the meeting in Ottawa might be of special service to the Canadian members of the organization. It seemed to the Americans, however, that the Canadians had made most wonderful progress before the holding of the convention, and while the Canadians said that the convention was a source of assistance and inspiration to them, the Americans went away feeling that they had taken away more assistance and inspiration than they gave."

TARIFF CHANGES

NEW BUDGET

The tariff resolution proposed by the Minister of Finance in his Budget Speech on Thursday, the 5th instant, substitute other revenue provisions in lieu of former tariff items 24, 25, 25a, 26, 27, 28, 28a, 29, 60, 61, 83, 84, 210, 267a, 290, 329a, 337, 343, 345, 348, 350, 351, 356, 384, 446, 447, 448, 591. The new rates of duty provided in the resolutions are as follows:--

Tariff Items.		British Preferential Tariff.	Intermediate Tariff.	General Tariff.
24 Chicory, raw or green	per pound	2¼ cents	3 cents	3 cents
25 Chicory, kiln-dried, roasted or ground	per pound	3 cents	5 cents	5 cents
25a Coffee, extract of, n.o.p., and substitutes thereof	per pound	5 cents	7 cents	7 cents
26 Coffee, roasted or ground, and all imitations thereof, and substitutes therefor, including acorn nuts, n.o.p	per pound	3 cents	5 cents	5 cents
27 Coffee, roasted or ground, when not imported direct from the country of growth and production	per pound	3 cents	5 cents	5 cents
28 Coffee, green, imported direct from the country of growth and production, and green coffee purchased in bond in the United Kingdom	per pound	and 7½ p.c. 2¼ cents	and 10 p.c. 3 cents	and 10 p.c. 3 cents
28a Tea, imported direct from the country of growth and production, and tea purchased in bond in the United Kingdom	per pound	7 cents	10 cents	10 cents
When in wrappings, cartons or other packages weighing five pounds or less, the weight of the wrappings, cartons or other packages to be included in the weight for duty				
29 Coffee, green, n.o.p	per pound	2¼ cents and 7½ p.c.	3 cents and 10 p.c.	3 cents and 10 p.c.
60 Wheat, n.o.p		Free	Free	Free
60a Wheat, when imported from a country which imposes a Customs duty on wheat grown in Canada	per bushel	8 cents	12 cents	12 cents
61 Wheat flour, n.o.p; semolina, n.o.p		Free	Free	Free
61a Wheat flour and semolina, when imported from a country which imposes a Customs				

TARIFF ITEMS.		British Preferential Tariff.	Intermediate Tariff.	General Tariff.
duty on wheat flour or semolina manufactured in Canada	per barrel	30 cents	50 cents	50 cents
83 Potatoes, n.o.p., and potatoes dried, desiccated or otherwise prepared, n.o.p		Free	Free	Free
83a Potatoes, when imported from a country which imposes a Customs duty on potatoes grown in Canada	per bushel	12½ cents	20 cents	20 cents
84 Potatoes, dried, desiccated or otherwise prepared, when imported from a country which imposes a Customs duty on such articles produced in Canada		15 p.c.	30 p.c.	30 p.c.
210 Peroxide of soda; soda, sulphate of, crude, known as salt cake; silicate of soda in crystals or in solution; bichromate of soda; nitrate of soda or cubic nitre; sal soda; sulphide of sodium; nitrite of soda; arseniate, binarseniate, chlorate, bisulphite and stannate of soda; prussiate of soda and sulphite of soda		Free	Free	Free
210b Barilla or soda ash	per pound	⅕ cent	3/10 cent	3/10 cent
267a Crude petroleum in its natural state, .7900 specific gravity or heavier at 60 degrees temperature, when imported by oil refiners to be refined in their own factories		Free	Free	Free
290 Cement, Portland, and hydraulic or water lime, in barrels, bags, or casks, the weight of the package to be included in the weight for duty	per 100 pds.	5 cents	8 cents	8 cents
329a Iron ore		Free	Free	Free
337 Lead, old, scrap, pig and block	per pound	¾ cent	1 cent	1 cent
343 Tin, in block, pigs or bars; tin strip waste, and tin foil		Free	Free	Free
345 Zinc dust, sheets and plates; sal ammoniac skimmings; and seamless drawn tubing of zinc		Free	Free	Free
345a Zinc spelter and zinc in blocks, pigs, bars or rods	per pound	¾ cent	1 cent	1 cent
348 Copper in blocks, ingots or pigs	per pound	1 cent	1½ cents	1½ cents
348b Brass and copper scrap		Free	Free	Free
348c Brass in blocks, ingots or pigs; copper in bars or rods, not less than six feet in length, unmanufactured, n.o.p.; copper in strips, sheets or plates, not polished, planished or coated; brass or copper tubing, in lengths not less than six feet, and not polished, bent or otherwise manufactured		5 p.c.	10 p.c.	10 p.c.
348d Copper in bars or rods when imported by manufacturers of trolley, telegraph and				

Tariff Items.		British Preferential Tariff.	Intermediate Tariff.	General Tariff.
	telephone wires, electric wires and electric cables, for use only in the manufacture of such articles in their own factories	Free	Free	Free
356	Nickel in bars and rods, strips, sheets or plates	Free	Free	Free
356a	Nickel silver and German silver in bars, rods, strips, sheets, plates and anodes	5 p.c.	10 p.c.	10 p.c.
384	Rolled iron or steel sheets and strips, polished or not, number fourteen gauge and thinner, n.o.p.; Canada plates; Russia iron, terns plates and rolled sheets of iron or steel, coated with zinc, spelter or other metal of all widths or thicknesses, n.o.p.; and rolled iron or steel hoop, band, scroll or strip, number fourteen gauge and thinner, galvanized or coated with other metal, or not, n.o.p.	7½ p.c.	12½ p.c.	12½ p.c.
384a	Rolled iron or steel hoop, band, scroll or strip, number fourteen gauge and thinner, and rolled iron or steel sheet, when imported by manufacturers for use only in their own factories in the manufacture of galvanized iron or steel hoop, band, scroll, strip, or sheet.	Free	Free	Free
446	Cultivators, harrows, horse-rakes, seed-drills, manure spreaders and weeders and complete parts thereof	10 p.c.	15 p.c.	15 p.c.
446b	Ploughs and complete parts thereof	12½ p.c.	17½ p.c.	17½ p.c.
446c	Windmills and complete parts thereof, not including shafting	12½ p.c.	17½ p.c.	17½ p.c.
447	Portable engines with boilers, in combination, horse-powers and traction engines for farm purposes; windstackers, and threshing machine separators, including baggers, weighers and self-feeders therefor, and complete parts of all articles specified in this tariff item	12½ p.c.	17½ p.c.	17½ p.c.
448	Hay loaders, potato diggers, fodder or feed cutters, grain crushers, fanning mills, hay tedders, farm, road or field rollers, post hole diggers, snaiths, and other agricultural implements, n.o.p.	12½ p.c.	20 p.c.	20 p.c.
591	Farm wagons and complete parts thereof	15 p.c	20 p.c.	20 p.c.
591a	Freight wagons, drays and sleighs, and complete parts thereof	17½ p.c.	25 p.c.	25 p.c.
705a	Settlers' effects, viz.: Machines, vehicles and implements for agricultural purposes, moved by mechanical power, if actually owned abroad by the settler for at least six months before his removal to Canada, and			

Tariff Items.		British Preferential Tariff.	Intermediate Tariff.	General Tariff.
subject to regulations prescribed by the Minister of Customs ..... Provided that the said machines, vehicles and implements may not be so entered unless brought by the settler on his first arrival, and shall not be sold or otherwise disposed of without payment of duty until after twelve months' actual use in Canada.		Free	Free	Free

Under the resolutions the five per cent. British preferential war tariff is wholly cancelled. The resolutions also make the following goods exempt from the 7½ p.c. war tariff, viz.:

(1) Materials imported to be used in the manufacture of goods enumerated in tariff items 446, 446b, 446c, 447, 448, 449, 450 and 591;

(2) Olive oil and peanut oil for canning fish;

(3) Materials imported prior to the first day of September, 1920, to be used in the manufacture of oleomargarine as described in The Dairy Industry Act,1914, and amendments thereto;

(4) Linen or cotton clothing, n.o.p.;

(5) Goods enumerated in the following tariff items in Schedule A:

5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 24, 25, 25a, 26, 27, 28, 28a, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 39a, 41, 42, 43, 44, 46, 46a, 47, 48, 49, 50, 51, 52, 53, 56, 57, 58, 59, 60, 60a, 61, 61a, 62, 63, 63a, 64, 65, 67, 68, 69, 69a, 70, 71, 71a, 72, 73, 74, 76, 81, 82, 83, 83a, 84, 85, 86, 87, 88, 89, 90, 91, 93, 94, 95, 96, 97, 97a, 98, 99, 99a, 100, 101, 102, 103, 105, 106, 107, 108, 109, 110, 111, 113, 113a, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 130, 133, 136, 136a, 137, 138, 140, 140a, 141, 152, 152a, 155, 170, 210b, 227, 267a, 268, 269, 270, 271, 272, 273, 274, 275, 276, 276a, 277, 277a, 279, 281, 290, 329a, 337, 343, 345a, 348, 384, 384a, 387a, 411, 444, 446, 446b, 446c, 447, 448, 449, 450, 456, 459, 460, 461, 461a, 462, 462a, 469, 472, 475, 520, 521, 522, 523, 533a, 551, 553, 554, 555, 556, 557, 558, 563, 565, 566, 567, 568, 568a, 569, 587, 588, 591, 599, 601, 602, 603, 604, 605, 606, 607, 611, 611a, 612, 617, 625, 626, 627, 631, 638, 638a, 639, 641, 642 and 705a.

DRAWBACK FOR HOME CONSUMPTION

That Schedule B to the Customs Tariff, 1907, be amended by providing that the following items, enumerations, and rates of drawback of Customs duties be inserted in said Schedule:

Item No.	Goods.	When subject to drawback.	
1025	Materials, not including machinery	When used prior to first day of September, 1920, in the manufacture of oleomargarine as described in The Dairy Industry Act, 1914, and amendments thereto	99 p.c.
1026	Materials	When used in the manufacture of goods enumerated in tariff items 446, 446b, 447, 448 and 591	30 p.c.

The Toronto Branch Reviews Its Work

Proceedings at the Nineteenth Annual Meeting—Net Gain in Membership During the Year—Resolutions Passed and Officers Elected for Ensuing Year

By H. MACDONALD
Secretary, Toronto Branch, C.M.A.

THE Toronto Branch of the Canadian Manufacturers Association held its nineteenth annual meeting in the Assembly Hall of the Toronto Board of Trade on May 15th, and was well attended—more particularly at the evening session, which was convened after dinner in the Luncheon Club.

Since the last annual meeting, the shift of fortune for the allied world has been incredibly rapid and complete, and the greatest war of all time ended on Monday, November 11th, at 11 a.m., French time. Confidence in the future, despite heavy war burdens, labor unrest, and disorganization consequent upon the readjustment period, was the keynote of the reports and speeches.

Mr. Thos. Roden, who assumed the duties of Chairman of the Branch in December last, upon the appointment of Major L. L. Anthes as Director of the Demobilization Branch, of the Department of Soldiers' Civil Re-establishment in Ottawa, presided.

Mr. Roden's address, in part, was as follows:

"We, who had hitherto been a borrowing country, loaned to our own Government no less a sum than $1,350,000,000, and yet had left over sufficient to extend loans of hundreds of millions of dollars to the hard pressed British Treasury. We have finished with the war, but not with war penalties or responsibilities. Our problems are in the future. There is much clearing up to be done, but our constructive work will be in peaceful pursuits. We will do well, therefore, to remove the spirit of war from among us. Industrial corporations, labor organizations, returned soldiers and educational activities should not be separated forces with latent or outspoken antagonisms, but co-operative bodies, each and every to understand the other and all recognizing obligation to the community as a first claim.

To Secure Solution

"We will not secure a sound solution of these problems by retaining chiefly a fighting spirit, however deeply we may feel the need for reform. The solution will come through patient, personal effort and through wise regulations by Governments. It will come through conviction concerning needed reforms, accomplished by good fellowship, mutual confidence and personal industry. Men engaged in industry, in commerce and educational work, as well as labor leaders should, therefore, bring wisdom and restraint into the struggle. No wild fancy will reorganize conditions. No academic dreamer will solve the problem. It must be the practical men in the factory, in the management, in the office, who must get together and co-operate in constructing an industrial fabric that will wear and stand the strain of the national law of competition.

"Mr. Lloyd George, in his appeal to the British workmen, emphasized the fact, and I feel I cannot do better than quote him:

> There is a feeling that one way of providing employment is by reducing the hours of labor so that there will be enough work to go round at the same wages. Reduce the hours of labor to what is fair, profitable and possible, but to reduce the hours of labor merely in order to create employment, paying exactly the same wage, is one way to make unemployment in the whole country. I should have thought that stood to reason.'

"In view of the division of opinion and the question of Canada's fiscal system, it might be well to inquire upon what issue the present Parliament was elected. The present Union Government was organized to prosecute the war and to provide reinforcements for the Canadian army. Neither the Government nor Parliament has any mandate to destroy the fiscal system which was maintained by both the old parties for forty years.

The Opinion of 1911

"The trade question was the issue in 1911, and the country pronounced unmistakably in favor of the existing system as against a wide measure of reciprocity with the United States, chiefly in agricultural products. The reciprocity agreement did not directly or generally inflict duties on the manufacturers. It is, therefore, no evidence that the country is favorable to the platform of the organized grain growers or that the people would reverse the decision of eight years ago.

"Until that decision is reversed by the constituencies, Parliament cannot fairly adopt a policy in direct conflict with the sentiment of the country as expressed in an election in which that issue alone divided the people.

"Last week, we had a visit from Mayor M. A. Brown of Medicine Hat, who gave to us some of the spirit of the West by his incisive declarations on the needs of our growing country east and west in industry, agriculture and science. The West is seizing the fundamentals in the application of science to its problems. They are creating a Bureau of Research to which the Province of Alberta is contributing $20,000 per annum to start with. They are surveying the Province of Alberta for a fuller knowledge of its natural resources. A business commission will analyze these reports and direct capital and industry to cooperate in its development. Capital will not be encouraged to speculate, but to invest for assured business for meeting local needs and export trade to the Coast.

"We wish them success, believing that they have grasped the right idea in linking up science and industry to accomplish the advance their great resources entitle them to.

Housing Commission

"Toronto has cause to be congratulated on the appointment of a Housing Commission composed of such representative citizens. Seldom do we recognize the sacrifice of time such responsible positions impose upon those citizens in this and similar work." (He asked that the manufacturers give the Commission the full value of their experience and assistance).

"Our Branch, at a conference with representative Ontario members, held on 20th March last, unanimously recommended to the Executive Committee of the Association the advisability of creating a Provincial organization, to be known as the Ontario Division of the Association, to include

present Branches or Sub-Branches in Toronto, Hamilton, Niagara Falls and Brantford, and any additional branches which might subsequently be organized to deal with matters having a Provincial application, leaving to the local organizations such matters as affect them locally, in view of the large number of problems having a Provincial application with which the Toronto Branch in the past has had to deal. The proposed arrangement has been approved by the Executive Committee, and would undoubtedly give better service to our members. A committee has been appointed to make all necessary arrangements accordingly, with powers, namely: Messrs. Roden, Breyfogle, Kinzinger and Champ."

In closing, Mr. Roden said: "I cannot close without expressing our heartfelt sympathy with the relatives and friends of those who, during the war, gave their lives in the service of their country. Their memories will never die."

Executive Committee

The Executive Committee's report summarized the work handled in the course of the year, including conferences through a Special Labor Committee with the Labor Sub-Committee of the Resources and Development Committee of the Senate regarding the important problems of post-war reconstruction, conferences with iron and steel users, difficulty in procuring export licenses for iron and other raw materials during the war; an improved system of promotion in the City Fire Department on the basis of examination, investigation into alleged Bolsheviki propaganda, conferences regarding the employment of returned soldiers, involving an industrial census of the city, and co-operation with the Information and Service Branch of the Department of Soldiers' Civil Re-Establishment, through which out of 6,407 applications for employment, 4,060 placements were made, being 63.3 per cent.

Dealing with taxation, the committee stated that it is evident that Dominion taxation cannot be lightened, as practically all that is being done now is the *meeting of current* requirements and interest. It was not sufficient that we rely upon the growth of population and wealth for an automatic increase in revenue. Ample provision should rather be made for the reduction of debt, even under the most unfavorable circumstances.

The coal shortage last winter was serious, and may be repeated this year, and at any future time when the production of coal for any reason falls short or transportation systems fail to cope with the situation. The committee, accordingly, advocated cheap power, in increasing quantities, as the only way to cope with what would otherwise be a hopeless situation.

Selection of Immigration

One of the most common grounds of optimism is the expectation that Canada will receive a large immigration during the next few years, not only as a result of the widespread information about Canada which has been conveyed to European countries, but also by reason of the pressure of economic conditions which is sure to result in Europe. Our immigration law must be framed so as to exercise a rigid selection, preferably from the Mother Country.

Much is to be hoped from Senator Robertson's commission on the Joint Control of Industry, particularly as the Commissioners have lost no time in carrying out their survey. Every part of the country is to be visited and a report will be available without delay, which should reveal the attitude of both labor and capital and designate to industries the way in which wage-earners may most easily be given a share in the management. With the information thus accumulated, as a basis of action, a great many employers and employees should be able to get together on a friendly co-operative basis. We are encouraged to make this prediction because of what has been accomplished in Great Britain. It is announced that the conference of employers and working men on the Joint Control of Industries has practically put an end to the serious labor unrest in that country.

The registration of students in the Central Technical School showed an attendance of 8,577, an increase over that of all previous years. The Branch provided prizes to the value of $200 for the evening school students, and the scholarship scheme inaugurated three years ago, enables the Committee to place 51 scholarships of $25 each, or a total of $1,275, at the disposal of Dr. McKay for competition by the students of the day courses.

Probably the most far-reaching step to bring the Department of Education up-to-date was the bill introduced by the Hon. Dr. Cody, Minister of Education, at the recent session of the Ontario Legislature, to provide for the compulsory school attendance of adolescents between 14 and 18 years of age, and also the announcement that the text-books were shortly to be revised.

The Educational Committee referred to the generous gift by Sir John Eaton, a member of the Branch, of $25,000 a year for 20 years for a chair of clinical medicine in Toronto University.

The Canadian National Exhibition Committee's report told of an increase in the number of exhibits, and added that it was gratifying to have agriculture out in such force. All the leading lines of Canadian tractors were in evidence, the shortage of farm help naturally creating a new interest and a big demand for Canadian-made tractors.

Secretary's Report

The report of the Secretary, H. Macdonald, showed that 45 applications for membership had been received and 32 resignations, due to firms discontinuing business and amalgamations, some lines being adversely effected by the abnormal trade conditions. The membership of Toronto Branch is now 833 firms and corporations.

Ontario's Legislature was in session this year for the best part of eight weeks. During that period, 180 bills were considered, against 147 bills last year—most of them private or public measures that affect comparatively few people of the Province, but there were 30 to 40 Government measures that were put through this year that are of the greatest importance. Every person will be affected by some of them to a greater or lesser extent. All of these bills were examined by the Secretary.

The Bureau of Advice and Information received numerous enquiries during the year, its services unquestionably saving a considerable amount to the manufacturers. It recommended that advertising schemes in particular should, when any doubt exists, be referred to the Bureau of Advice and Information, before any contract is made.

Mr. K. Dunstan, President, Board of Trade, delivered an address, giving various interesting suggestions as to the best form of a War Memorial for Toronto.

In the course of an address on "Technical Education," Dr. A. C. McKay, LL.D., summarized the rapid extension of the Technical Schools and the necessity for further enlargement.

Mr. J. Maguire (industrial expert) dealt with co-operation in industry. He declared that wild-eyed agitators have been quick to seize the opportunity presented by the transition period, following the cessation of hostilities, and to seek to lead labor to some Utopia of their own imagining. It is between this course and a re-action which would deny labor its just rights, that labor must look for a safe course.

Col. J. B. MacLean suggested that as the aims of labor are akin to those of the Manufacturers' Association, representatives of labor should be invited to the meetings.

Major L. L. Anthes delivered an interesting address on the work of demobilization, and expressed the appreciation of the Government for the effective assistance rendered by the manufacturers.

Addresses were also delivered by Messrs. S. R. Parsons, J. S. McKinnon, J. F. MacKay, Sam Harris, and R. S. Gourley.

Resolutions were passed as follows:—

Technical Education and Vocational Training

That the Toronto Branch of the Canadian Manufacturers Association, in annual meeting assembled, recommend the next annual meeting of the Association to earnestly urge upon the Dominion Government to enact legislation in the present session of Parliament, for the purpose of promoting and assisting technical education in Canada, and that to this end a Technical Education Board of Canada be created on a permanent basis for the purpose of formulating a comprehensive policy of federal aid to industrial education and technical training in all the provinces of Canada.

Canadian Tariff

That the Toronto Branch of the Canadian Manufacturers Association, in annual meeting assembled, protests against any interference with the tariff of Canada until a Commission is appointed to thoroughly investigate and to devise a tariff which will be equitable and just to all classes and that will best serve the welfare of the country as a whole.

And that a copy of this resolution be sent on to the forthcoming annual meeting of the Association for further discussion and action.

Industrial Relations

That the Toronto Branch of the Canadian Manufacturers Association, in annual meeting assembled, cordially welcomes the appointment of a "Royal Commission on Industrial Relations," created under Order-in-Council dated April 4th, 1919, *inter alia*, "To consider and make suggestions for securing permanent improvement in the relations between employers and employees," and recommend to the next annual meeting of the Association that it pledge its co-operation and support to the Dominion Government in its timely efforts towards a fuller knowledge of industrial conditions, and consequently of better relations between capital and labor.

Civil Service Reform

That the Toronto Branch of the Canadian Manufacturers Association, in annual meeting assembled, place itself on record as being strongly in favor of the elimination of patronage in connection with all Government appointments in Ontario, and hereby earnestly advocates adoption by our Provincial Government of the principle of competitive examination on a similar basis to the examinations of the Dominion Civil Service Commission, coupled with an adequate and liberal scale of salaries, which will attract and retain candidates of talent, ability and experience.

The following officers were elected for the ensuing year:—

Chairman—Mr. W. C. Coulter (by acclamation), Booth Coulter Copper & Brass Co., Limited.

Vice-Chairman—E. H. Gurney (by acclamation), The Gurney Foundry Co., Limited.

Executive Committee—C. H. Carlisle, Goodyear Tire & Rubber Co., Ltd.; F. S. Corrigan, Sheet Metal Products Co., Ltd.; R. H. Easson, Otto Higel Co., Ltd., E. J. Freyseng, Freyseng Cork Co.,, Ltd.; Albert H. Gourlay, Gourlay, Winter & Leeming, Ltd.; T. A. Hollinrake, A. R. Williams Machinery Co., Ltd.; Walter Laidlaw, R. Laidlaw Lumber Co., Ltd.; R. L. McIntyre, McGregor & McIntyre, Ltd.; John Millar, Lever Bros., Ltd.; T. F. Monypenny, Imperial Varnish & Color Co., Ltd.; J. Allan Ross, Wm. Wrigley, Jr., Co., Ltd.; J. A. Scythes, Scythes & Co., Ltd.; E. G. Staunton, Stauntons, Ltd.; H. A. Telfer, Telfer Bros., Ltd.; Geo. W. Watts, Canadian General Electric Co., Ltd.; I. H. Weldon, Provincial Paper Mills Co., Ltd.; J. Westren, Dunlop Tire & Rubber Co., Ltd.

Representatives to Canadian National Exhibition Association—T. A. Russell, Russell Motor Car Co., Ltd.; George Brigden, Brigdens, Ltd.; S. H. Chapman, Hurley Machine Co., Ltd.; W. C. Coulter, Booth Coulter Copper & Brass Co., Ltd.; John Firstbrook, Firstbrook Bros., Ltd.; E. J. Freyseng, Freyseng Cork Co., Ltd.; S. Harris, Harris Lithographing Co., Ltd.; G. T. Irving, Irving Umbrella Co., Ltd.; J. S. McKinnon, S. F. McKinnon Co., Ltd.; J. P. Murray, 67 Bond St.; Thomas Roden, Roden Bros., Ltd.; Frank A. Rolph, Rolph-Clark-Stone, Ltd.

Representatives to the Executive Council—Major L. L. Anthes, Anthes Foundry, Ltd.; Geo. Brigden, Brigdens, Ltd.; Thos. Findley, Massey-Harris Co., Ltd.; John Firstbrook, Firstbrook Bros., Ltd.; E. J. Freyseng, Freyseng Cork Co., Ltd.; Victor C. Harding, Toronto Carpet Mfg. Co., Ltd.; S. Harris, Harris Lithographing Co., Ltd.; T. A. Hollinrake, A. R. Williams Machinery Co., Ltd.; Walter Laidlaw, R. Laidlaw Lumber Co., Ltd.; L. L. McMurray, Gutta Percha & Rubber, Ltd.; T. F. Monypenny, Imperial Varnish & Color Co., Ltd.; J. A. Riordan, Standard Sanitary Mfg. Co., Ltd.; Thos. Roden, Roden Bros., Ltd.; Frank A. Rolph, Rolph-Clark-Stone, Ltd.; J. Allan Ross, Wm. Wrigley, Jr., Co., Ltd.; J. F. M. Stewart, Point Anne Quarries, Ltd.; George W. Watts, Canadian General Electric Co,, Ltd.

Report of the Committee on Welfare

IT is recognized by all thoughtful people that a better understanding between capital and labor is necessary, if the grave problems of reconstruction are solved with the maximum success and benefit to Canada. Between 1,500,000 and 2,000,000 persons will be affected vitally by demobilization and consequent industrial changes. Unless there is sympathetic understanding and sincere co-operation between employers and employees, industrial machinery cannot be adjusted to the new conditions without severe loss to capital, extensive unemployment and individual distress. Conditions which are the cause of the present labor troubles must be corrected or graver disturbances will mark the course of the reconstruction period. Much of the present disquiet is due to high prices, and much of it also to specific industrial causes. Amongst these are the failure hitherto of capital to admit the human rights of labor, the domination of extreme elements in labor organizations and the ancient and still active distrust between labor and capital. These causes must be corrected in the interests of industry and of the nation.

The war, as nothing else in human history, has broken down the wall of partition between classes. All have responded to a common appeal and all have shared in common sacrifice and common glory. Unless there is a mortal and ineradicable defect in our civilization there will be fruits of sympathy and understanding from all this common effort. In Great Britain those who are regarded as labor agitators have become sober and responsible Imperial statesmen, as probably they always were, if we had understood them. No one in the United States has revealed more of the spirit and stature of a statesman than Samuel Gompers Those who reviled Mr. Lloyd George are his colleagues in the Imperial Government; those whom he reviled are his friends and comrades. It is not clear that those Labor and Radical leaders in Great Britain and the United States have become more conservative; it is certain that many of those who contended against them have become less conservative.

Not a few wild theories and fantastic panaceas have been tested in Russia with consequences of ruin and horror beyond imagination. Yet there are disciples of the Bolsheviki in the United States and even in Canada.

Speaking in England, Mr. Hughes, the Labor Premier of Australia said: "Bolshevism is no new thing to us. There is nothing new in its shibboleths, which were to set up a new heaven and a new earth, in which all things would come to men who did not deserve them. These shibboleths are being adopted by an increasing section of the country

from which I come, but the country is now being swept by the fierce winds of war, and men see that they have to look to a world as it is." There is reason to fear that many of these irresponsible apostles of revolution are the subsidized agents of Germany seeking to destroy by internal dissension in the ally countries the political authority and the free institutions which German arms could not overcome. But the Canada that we have saved by sacrifice and valor, we must not destroy by incendiary agitation or rash and empirical legislation. There is safety only in sympathetic co-operation between employers and employees, and frank recognition of the actual identity of interest between capital and labor.

Rockefeller's "Colorado" Plan

The value of co-operation and frank recognition of the rights of labor is indicated in the success which Mr. John D. Rockefeller, Jr., reports of the "Colorado" plan, after a careful inspection of the results of that industrial brotherhood experiment at the plants of the Colorado Fuel and Iron Company. In 1915, after the mines and steel mills had been the scenes of serious strikes, Mr. Rockefeller went to study the situation. He told the men he was firmly resolved to maintain in every respect the open-shop principle; that he meant to bring capital and labor nearer together, and that he was determined that every employee should have a prompt hearing and fair treatment. To the miners he proclaimed the doctrine that labor and capital are natural partners, not enemies. In the *Atlantic Monthly* he wrote: "With labor and capital as partners, wealth is created and ever greater productivity made possible. In the development of this partnership, the greatest social service is rendered by that man who so operates in the organization of industry as to afford to the largest number of men the greatest opportunity for self-development and the enjoyment by every man of those benefits which his own work adds to the wealth of civilization. This is better than charity or philanthropy; it helps men to help themselves and widens the horizon of life. Through such a process the laborer is constantly becoming the capitalist, and the accumulated fruits of industry are made the basis of further progress."

As the result of a visit of inspection, Mr. Rockefeller in August authorized the publication of the following statement: "I spent two weeks visiting the twenty or more camps and steel mills of the Colorado Fuel and Iron Company. I talked with practically all of the representatives in the camps and mills. The outstanding results of the operations of the plan have been as follows:

1. Uninterrupted operation of the plants and increased output.
2. Improved working and living conditions.
3. Frequent and close contact between employees and officers.
4. Elimination of grievances as a disturbing factor.
5. Good-will developed to a high degree.
6. The creation of the community spirit.

This community spirit has produced striking results. Club-houses have been constructed in a number of the camps which provide recreation and social facilities, not only for the men and boys, but for the women and children as well. There are band stands in a number of the camps, and bath-houses in practically all of them. In several, dispensaries have been built and supplied with district nurses.

Schools have been improved; some would serve as models in any city. One of the most important features is the gardens that have been generally cultivated. The community spirit is developing community pride and rivalry.

Representatives of the men in the camps and mills, Mr. Rockefeller reports, intimate that all grievances have been adjusted to the satisfaction of the employees, are in process of adjustment, or the employees have been convinced that their grievances were not well founded.

In Great Britain a sub-committee of the Government Reconstruction Committee was appointed:

1. To make and consider suggestions for securing a permanent improvement in the relations between employers and workmen.

2. To recommend means for securing that industrial conditions affecting the relations between employers and workmen shall be systematically reviewed by those concerned with a view to improving conditions in the future.

The result of the sub-committee's initial deliberations was what is better known as the "Whitley Report," a statement advocating the establishment of Industrial Councils. The sub-committee, which devoted its attention first to the main industries of the country in which there existed representative organizations on both sides, found it essential that "any proposals put forward should offer to work-people the means of attaining improved conditions of employment and a higher standard of comfort generally, and involve the enlistment of their active and continuous co-operation in the promotion of industry." To this end, the sub-committee reported that "the establishment for each industry of an organization, representative of employers and work-people, to have as its object the regular consideration of matters effecting the progress and well-being of the trade from the point of view of all those engaged in it, so far as this is consistent with the general interest of the community, appears to us necessary."

Industrial Councils

The sub-committee, therefore, recommended to the Imperial Government the formation of Joint Standing Industrial Councils in the several industries, where they did not already exist, composed of representatives of employers and employees, regard being paid to the various sections of the industry and the various classes of labor engaged.

The National Industrial Council was not regarded as complete in itself. The sub-committee advocated "a triple organization in the workshops, the districts and nationally." It, therefore, advised that the following proposals should be laid before the National Industrial Councils:

"(*a*) That District Councils, representative of the Trades Unions, and of the Employers' Association in the industry, should be created, or developed out of existing machinery for negotiation in the various trades.

"(*b*) That Works Committees, representative of the management and of the workers employed, should be instituted in particular works to act in close co-operation with the district and national machinery."

It is significant that the sub-committee specifically advised that membership in the Councils should be confined to representatives of Trade Unions and Employers' Associations, and that new organizations should be admitted only with the approval of the particular side of the Council of which the organization would form a part. Its members further refrained from expressing opinions with regard to profit-sharing, co-partnership, or particular systems of wages, etc., being convinced that "a permanent improvement in the relations between employers and employees must be founded upon something other than a cash basis. What is wanted is that the work-people should have a greater opportunity of participating in the discussion about and adjustment of those parts of industry by whch they are most affected."

The Whitley Report, issued on March 8th, 1917, demanded recognition of the human rights of labor. That is the new spirit in industry. The report excited profound interest not

not only in Great Britain but on this continent. Important developments quickly followed, industrial schemes being drawn up involving millions of work-people, though there are still wide differences of opinion as to what powers an Industrial Council should exercise, whether or not penalties should be imposed upon recalcitrants and how penalties, if imposed, should be enforced. The Whitley Committee condemned compulsory arbitration and opposed enforcement of awards and agreements by pecuniary penalties. The British Industrial Reconstruction Committee urges the Government to bring employers and employees together by systematic appeal and action. The National Alliance of Employers and Employed insist that after-war industry must have self-government. It argues that this self-government can be achieved by employers and employees working together with equality of representation and free from outside interference. "Through that co-operating work," the Secretary of the Alliance declares, "they are reaching a mutual understanding and a realization of the fact that their interests are identical and not antagonistic, and they are agreed that along these lines the industrial future can be assured."

"Industrial Relationship" in Canada

The most comprehensive attempt that has yet been made in Canada to create a community of interest and feeling between capital and labor has been put in operation in the plants of the Imperial Oil Company, Limited, which are placed at stragetic points from the Atlantic to the Pacific. It is known as the "Industrial Relationship" plan, and has already proven a success in certain of the plants of the Standard Oil Company in the United States, and has met with favor among the workers. Apart altogether from the special benefits involved, the system is unique in that it gives to the worker a co-operative voice in the adjustment of wages and conditions of labor, and introduces the principle of collective bargaining by elected representatives of the wage-earners.

The announcement of the adoption of this plan was made at Sarnia on December 19th, 1918. It is a project national rather than local in its application. The plan is no ill-digested project, hastily taken up to meet the prevailing ferment in labor circles; but one that has received full and deliberate consideration.

"Collective Bargaining"

The system of "collective bargaining" begins by extending to the men the privilege of electing their own delegates as members of a representative body by a free and secret ballot. Such delegates are elected in the ratio of 1 to 75. So vast a number of trades and expert callings enter into the oil industry that the employees have been classified into four elective groups. The first consists of ordinary trades like masons, carpenters, boilermakers, blacksmiths, etc., which elected five delegates; the second of yard laborers, drivers, stablemen, etc., which chose three; the third of special callings like the candle-makers, paraffine workers, etc., which selected two; the fourth of refinery hands, stillmen, acid workers, etc., which chose five. The Industrial representatives so elected at present represent thirteen trades.

It is proposed that grievances, etc., shall first be dealt with by the divisional delegates of the group particularly affected. If they cannot be simply rectified, they will be placed before the joint committee. Should the latter body be unable to arrive at a satisfactory solution, an appeal is provided for to the president or his authorized representative. The employees are given a "Bill of Rights," under which, except under certain provided exceptions, no man or woman can be dismissed without having a fair hearing, with his fellow-employees participating in the deliberations on his case. The exceptions chiefly consist of breaches of discipline which endanger the lives of fellow-employees. The company will maintain an open-shop without discrimination against unions, or against any man on the ground of creed, color or opinion. In the case of a temporary or prolonged lack of employment in any particular trade, it is proposed to avoid the hardships of laying-off men by a system of transfers to departments where more help is needed. The joint committee of workers and officials will also initiate measures for the improvement of conditions and make recommendations that will be heeded and favorably entertained by the company on questions of sanitation, recreation, and various matters affecting social conditions.

These details are sufficient to show the comprehensiveness of the "Industrial Relationship" plan so far as the wage-earner is concerned. This, however, though the more important as a step in the direction of improving relations between labor and capital, is but one phase of the company's plans. The late Hon. W. J. Hanna, president, speaking of the community of understanding, used the following sentence: "We cannot by our own inaction, by blind refusal to see that the old is giving way to the new, and that the war was a part of the re-making of the world, ignore the lesson of the brotherhood of the battlefield."

"Welfare" in Ontario Plants

Impressed by these striking industrial developments, it was natural that your Committee should have arranged a conference of manufacturers in the Association's Board-room, which was held on 18th March last, at which Mr. Williams, of Kitchener, explained the experience of his firm. The firm of the Williams, Greene & Rome Co., Limited, started business in Toronto in 1881, realized, after four years' experience, their inability to make progress on the old line.

Moving to Kitchener, they organized their departments, developing a system of "Welfare" work, involving good wages based on results, good sanitary conditions and representation on a joint committee. A plan was worked out under which every new idea by the employees was handled by the joint committees. They recognized that everyone had some ability which was worth cultivating.

They formed a library with 300 volumes, the books being bought by the workers, and the company paying for the book-cases. Although there is a good library in the town, the employees' library continues to be freely used.

The firm provided a girls' rest room with a bath by building a new addition to the factory—a facility which was greatly appreciated at the time, as there were no baths in many of the workers' houses.

A dry room was added to the building where a change of footwear and clothes could be procured, thus reducing sickness by 33⅓ per cent.

Before engagement, every new superintendent is presented to the committee, whose approval is obtained.

The travellers were and are brought into counsel in every way possible, and they meet in conference in the office every week. They are members of an advisory committee—eleven being stockholders in the company.

No employee is allowed to be spoken to other than in a courteous manner in the plant.

The firm gave assistance to start a "benefit society"; and the town is divided into five wards, a representative being appointed in each ward to attend to sick cases.

A summer camp has been established where their married workmen with their families may go for rest and re-

creation. They close their plant for two weeks every year. if through sickness at home workers cannot go to the summer camp, the firm pay them double wages. A feature of the summer season is the Annual Picnic for which everything is found by the staff of travellers.

The top floor of the new building is used as a dance hall, the accommodation also being used for public meetings, and a "Welfare" director is appointed to whom every question is referred from the president.

The working hours have been reduced to nine, and the employees do not work nights.

A box has been put in position where complaints may be deposited and where also suggestions by employees may be placed, these replies being regularly acknowledged and the sender thanked.

Your committee find that the plan worked out by Mr. Williams showed:

1. A remarkable spirit of unity and co-operation between employer and employees.
2. A high standard of comfort and independence of the workers.
3. An elevated moral and ethical standard in the factory, shown in the town life—besides the plan worked out has proved financially profitable.

On 8th of April last, the committee, as directed by the conference held on the 18th of March, visited Kitchener and was received by Mr. Williams, who forthwith detailed four of his managers who led the deputation in groups over the various departments of the factory.

The delegation was much impressed with the architectural features of the factory, while the internal arrangements and staff organization presented a general appearance of order, discipline, and efficiency, showing that under the "Welfare" plan worked out by Mr. Williams, the largest possible measure of co-operation between employers and employed was being obtained. A feature of the organization in the factory is the latitude allowed to employees to work out plans on their own account without undue interference by the management.

Recreation and Amusement

While due consideration has been given to the working conditions in the factory, special attention has also been given to facilities for recreation and amusement. A well-equipped dining-room and kitchen has also been provided in charge of the employees, which has been managed to the entire satisfaction of the directors. An open air arena on the top of the building, which is used for recreation and amusement purposes, is specially appreciated in the heat of summer.

Mr. Williams, in referring to the success attained by "Welfare," stated that any sacrifices already made, or to be made, would be repaid tenfold. They were not antagonistic to "labor," and they invited other industries to follow the course successfully pursued by themselves. The factory had been built up by co-operation between employers and employees.

Mr. W. J. Roberts, speaking on behalf of the employees, stated that the success attained had been reached by honest co-operation on the part of both Mr. Williams and his employees. Mr. Roden, speaking on behalf of the delegation, stated that the cause of apparent differences in the past arose from ignorance of each other's problems, and that the present serious situation with which industry was confronted could only be met by co-operation, not only as between employers and employees, but also as between the farmer and the manufacturer.

Reference should be made to the recent celebration by the Massey-Harris Co. of the beginning of a new system of co-operative endeavor, which has been inaugurated in their plant which promises the maximum of results. At the recent meeting to inaugurate the plan, the president told of the various steps which led up to the new system, the first of which was the shortening of the hours, the installation of a cafeteria and other conveniences.

Mr. Findlay also told of the action of the Board of Directors to render systematic aid to the various employees' and sick benefit societies, where a pension fund would also be established for old employees. It has also been decided to allow employees of the company to become shareholders in the business, a plan for which will be devised, whereby the shares will be paid for in small monthly sums as were paid for Victory bonds and the like. Another revolutionary plan announced by Mr. Findlay will be the inauguration of a Workmen's Council for each factory, the purpose of which is to establish a direct point of contact between the employees and the management.

Some General Observations

Signs multiply every day of combination of interest between employer and employee. Your Committee believe that in the highest interests of the state and of every individual and class, capital and labor ought to be co-operating to improve efficiency and increase production. In order that the state may meet the new burdens imposed by the war, employers and employees alike must resolve to turn their minds to new ideas of production and be prepared to accept changes which will increase the national volume of wealth as the only way in which permanent employment and prosperity can be achieved.

Clearly we are geting nearer to conditions in which the claims of great groups of workmen who are more or less organized can be settled on lines which to the men will mean better conditions and which, to the employers and the community, will mean avoiding the losses entailed by strikes and industrial unrest.

While the Whitley Committee condemns compulsory arbitration, a contrary view is entertained by some centres in Canada at least. At the last session of the Manitoba Legislature, an "Industrial Conditions Act" was passed which definitely recognizes that disputes between employers and employees, which retard industrial development, should be prevented or settled speedily without interruption to industry. This Act is the first statutory enactment by a Provincial Government in Canada, providing simple and effective machinery for the settlement of industrial disputes by a Joint Council of Industry, subject to statutory direction and control. The Council consists of five persons—two representing employers, two representing employees, with an impartial chairman. The Council is endowed with the power of a civil court and is practically a local authority on general "Welfare" on behalf of industrial workers.

A Closer Association

Thus a new industrial machinery is being created and the common impulse is clearly towards the close association of capital and labor.

The important needs for future enjoyment of the fair prospect before us, perhaps above all else, are aggressive, individual leadership with federal government co-operation, capital unintimidated and labor prepared and contented. The whole country must have a vision of the end in view. It must think of the future in terms of big factories, skilled workmen, large steamships berthed and manned in Canada. expanding trade figures and a national prosperity undreamed of in the past.

Successful Annual of Montreal Branch

Branch Makes Net Gain of 34 Members During the Year—Committee Reports Evidence Much Good Work—Important Resolutions are Passed—Retiring Chairman Delivers Admirable Address

By W. P. HUGHES

Secretary, Montreal Branch, C.M.A.

ONE of the most successful annual meetings which the Montreal branch has ever held, took place in the Ritz Carlton Hotel, Montreal, on Thursday evening, May the 22nd. One hundred and forty members were present to receive the annual reports and to enjoy the addresses, which proved to be exceptionally bright and interesting.

For the first time in a number of years nominations for the incoming Executive Committee exceeded the number to be appointed, and therefore an election was necessary. The chairman, vice-chairman and two members of the Committee, resident outside the City of Montreal, were elected by acclamation. But for the twelve places to be filled by members within the city limits there were seventeen nominations, and a lively contest ensued. The result as announced in the annual meeting was as follows:

Chairman—W. J. Sadler, Sadler & Haworth.
Vice-Chairman—F. W. Stewart, Cluett, Peabody & Co., Ltd.
Outside Members—W. H. Miner, Miner Rubber Co., Ltd.; John Lowe, Montreal Cottons, Ltd.
Local Members—A. H. Brittain, Maritime Fish Corporation; A. A. Bittues, Gillette Safety Razor Co. of Canada, Ltd.; W. S. Fallis, Sherwin-Williams Co., Ltd.; Art. Harries, Canada Paper Box Co., Ltd.; George Henderson, Brandram-Henderson, Ltd.; John Irwin, McArthur, Irwin, Ltd.; Lt. Charles Presby Slater, George A. Slater, Ltd.; Julien C. Smith, Canada Carbide Co., Ltd.; Eugene Tarte, La Patrie Publishing Co., Ltd.; James L. Waldie, Canadian Tube & Iron Co., Ltd.; H. H. Williams, Canadian Vickers, Ltd.; F. R. Whittall, A. R. Whittall Can Co., Ltd.

Mr. Michael Hirsch, retiring chairman of the Municipal Affairs Committee, was the mover of two important resolutions which were unanimously passed by he meeting. The first recommended that the Association General Convention memorialize the Dominion Government to the end that strikes by policemen or firemen be made a criminal offence. The second congratulated Montreal's new civic administration on the success of their first year of work in keeping down expenditure and improving the financial standing of the city. The first resolution was as follows:

Whereas, constant and adequate police and fire protection are indispensable wherever people live in close proximity to one another as they do in all our cities and towns;
And whereas, grave dangers to life and property and injury to the public welfare immediately result from any interference with the continuity and adequacy of this protection;
And whereas, in the past such civic employes have occasionally forsaken in a body the performance of these duties;
And whereas, such concerted action cannot be justified in any circumstances;
Be it therefore resolved that the Montreal branch of the Canadian Manufacturers Association in Annual Meeting assembled on this, the 22nd day of May, 1919, urgently recommends to the general convention of the Association that this matter be the subject of memorial to the Dominion Government to the end that legislation be enacted making an organized strike among such civic employees a criminal offence while, at the same time, making ample provision for the redress of any grievances and the hearing of any complaints.

The address given by the retiring chairman, Mr. C. Howard Smith, was listened to with the closest attention. (Mr. Smith's complete address will be found on page 59).

The report of the Branch Reception and Membership Committee evidenced a material growth in the membership during the year. Forty-four applications had been received and ten resignations recommended, leaving a net gain of thirty-four. It was pointed out that in every case the resignations were due to a discontinuance of business. This, it was affirmed, was by far the largest percentage of increase which the branch had enjoyed for a number of years and was in itself a marked recognition of the Association's endeavors during the past twelve months on behalf of its members.

The report of the Legislation Committee mentioned the opening of the Ottawa office, under the guidance of Mr. G. M. Murray with his able assistant, Mr. E. Blake Robertson, and



—*B. and C. Press Photo*

Lt.-Col. Walter Sadler
Elected Chairman, Montreal Branch, C.M.A.

expressed a warm tribute to Mr. Murray for the most valuable service he had rendered manufacturers through his work at Ottawa. This report also reviewed what the committee had done in connection with both Dominion and provincial legislation throughout the year. Mention was made of the Dominion Bankruptcy Act, the Quebec Commercial Corporations Tax Act, and the Quebec Workmen's Compensation Act, to which the Committee had given a great deal of study, and in connection with which satisfactory results had been obtained.

After reviewing the activities of the Municipal Affairs Committee during the year in connection with such matters as the civic administration, the epidemic of Spanish influenza and the civic employees' strike, the chairman of that committee intimated that the question of a Municipal Information Bureau was one which had lately been given considerable study and recommended that the incoming committee carry the project forward to completion without delay.

The secretary's report reviewed several of the more important matters which had been dealt with by the branch, but which did not fall within the reports of the various standing committees. Under the general head of Industrial

Reconstruction and Development, many problems had received the close attention of the Executive Committee and appropriate action was taken with respect thereto. It was pointed out that the signing of the armistice had brought problems to the manufacturer no less knotty than those attendant upon the declaration of war itself. During the years of war a sentiment of "common cause" had linked all classes of the people together. Party and group feelings had given way before the necessity for co-operation, without which it would have been impossible to co-ordinate the country's war effort. Team work had been the slogan in the great game of winning the war. But with the signing of the armistice a reaction in sentiment had come which agi-



F. W. Stewart
Cluett, Peabody & Co.
Vice-Chairman, 1919-1920, Montreal Branch

tators and trouble-makers were doing their best to use in a selfish and shortsighted way for the advantage of ther particular class. The Executive Committee in almost every meeting throughout the year had taken up some phase or other of these reconstruction problems. Industrial relations and the tariff were two which had given the most concern. The report told of the conferences with the representatives of labor, which had been held in Ottawa to which members of the Executive had gone, and which had resulted in important recommendations being laid before the Dominion Government as the joint memorial of employers and organized employees.

The publicity campaign, which had been carried on by the Association in connection with the tariff, had been closely followed and heartily concurred in by the local executive. An endeavor to place before the Dominion members of Parliament the opinions of manufacturers and their employees with reference to the tariff issue had been energetically carried forward.

The Boards of Trade and Chambers of Commerce throughout the province had been circularized, some two hundred petitions bearing approximately twenty thousand signatures had been forwarded to the members of Parliament for the constituencies in which manufacturers in the province were located, and in short much educational work in this connection had been effected.

Local educational facilities had also been the subject of much activity on the part of the Executive Committee. It co-operated with the Protestant Board of School Commissioners in securing a much needed increase in their revenues. Representatives had been appointed on the Board of Directors of the Montreal Technical Institute and a small committee to act on the Advisory Board which supervises the curriculum of the Montreal Technical School. Altogether a marked increase in the interest taken by the branch in local educational affairs had been evident throughout the year.

The changes in the staff of the Association were spoken of and the satisfaction which the Committee had felt in the work of the new general manager, Mr. J. E. Walsh, was suitably expressed.

Nine meetings of the Executive Committee had been held during the year with an average attendance of seventeen. Two meetings of the Executive Council had been held in Montreal which were well attended and keenly appreciated by the local members of that body.

Addresses delivered

Following the business meeting, an informal dinner was enjoyed by the members, after which they listened to two very able addresses. The first was by Mr. H. H. Stevens, M.P. for Vancouver Centre, on the Labor situation. Mr. Stevens did not mince matters, but spoke earnestly out of a full experience of the great principles which must underlie amicable relations between employer and employees. He strongly urged the necessity for co-operation based fundamentally upon confidence and justice. He pointed out that prodigality on the part of the wealthy and the flaunting of war profits in the eyes of the workers by men made rich through war conditions were two of the greatest causes of the present unrest. He was optimistic as to the outcome of the attempt by Bolsheviks to sow seeds of revolution in Canada. These he contended could not take root, since conditions here were entirely different to those in Russia and other countries where our democracy system has not prevailed. He urged that no person should be permitted to settle in Canada who did not give promise of becoming a useful citizen in this democracy.

On the other hand, he disagreed with the desire evidenced by some to suppress the radical speech of the so-called "Reds," so long as such sentiment was confined to talking and did not express itself in violence. To suppress ideas such as these, Mr. Stevens contended, would tend to intensify their activity in secret, and nothing could be more harmful to the country than such a result.

His remarks were punctuated with much applause and the address was acknowledged by all to be one of the most meritorious which the branch had heard for a long time.

Mr. C. M. Bigelow, of Cooley & Marvin, Boston, gave a practical talk on production methods and costs control. He insisted that no one could give a manufacturer a system that could be universally applied with complete results. However, he maintained that there were principles which must underlie any business if it was to succeed in securing a maximum efficiency in production. The chief of these principles were honesty and fair play in applying the four fundamental rules of production.

During the evening solos were rendered by Mr. Marshall and Mr. Rettie, that were highly pleasing to the gathering.

The general impression brought out in the annual meeting was that the branch was in a very healthy condition and ready to take up the serious problems which would confront Canadian manufacturers during the coming year.



Entrance to the Lachine Canal, Montreal

Some of the Problems Confronting Manufacturers

Chairman's Address at Montreal Meeting

By C. HOWARD SMITH
Chairman, 1918-19, Montreal Branch, C.M.A.

WE are once more met together in annual convention to take a survey of the past year and to determine how best to meet the new conditions that, as business men, confront us.

A year ago we were still in the midst of war. The outlook was far from cheerful. To-day we have emerged from the war completely victorious and are on the verge of a peace which promises to be both salutary and lasting. It is needless for me to indulge in any platitudes concerning the war, its causes and its issues. We know that it was not of our making, nor of our seeking. We played our part in it as conscience and duty dictated. We are satisfied with the outcome. Beyond this, if I may say so, we are too close to the catastrophe to be able properly to estimate its true significance; to formulate a correct theory as to why such an appalling tragedy should be visited upon a helpless world in this supposed age of enlightenment—that is a task for our children and our children's children, who will be able to view events in a more illuminative perspective. What we are confronted with is the more immediate task of meeting conditions as they are and of helping, to the best of our ability, to put things back on a stabilized basis.

When Charles Schwab, the great American organizing genius and business expert, who gave his services freely to his country during the war, was recently asked, "Now that the war is over, what do you advise?" he replied, "Forget it, and get back to work."

Reconstruction

We cannot, of course, "forget it" in a literal sense, nor, indeed, would it be well for us to do so, but there is much to commend in the suggestion that the duty of the present moment is to devote ourselves exclusively and to the full extent of our powers to "getting back to work"—to reconstructing the industries which were suspended during the war period; to building up new ones; to providing employment at remunerative wages for all who want it; to contributing to the wealth and well being of Canada as a nation.

This is a task that peculiarly appeals to members of the Canadian Manufacturers Association. It is up to us to blaze the trail back to national prosperity and national contentment. Given reasonable opportunity we can and will provide employment for the men released from war service and returned to civilian walks of life. We are anxious not only to keep the old wheels moving, but to start as many new ones as possible. But we can only do this if granted reasonable freedom from undue restrictions on the part of the Government, on the one hand, and are met by a fair and reasonable attitude on the part of labor on the other. Industry in this country cannot thrive if unduly oppressed or if conditions are forced upon it beyond its powers to meet.

The Tariff

One of the most serious situations confronting the manufacturers to-day is the demand from the west for a radical revision of the tariff. The western grain-grower, looking at the subject solely from the viewpoint of self-interest and without any regard to its national aspect, has been led to believe that in tariff reform, with as near an approach to free trade as he can get, is the country's only means of salvation. He is bringing strong pressure to bear at Ottawa to enforce his views.

It is not necessary or desirable at this time to go into an extended discussion of the merits or demerits of a protective tariff. They are too well known to all of us to require enumeration. It is pertinent, however, to observe that the present is no time to introduce measures intended to upset Canada's accepted fiscal policy for the past forty years. Quite apart from the influence of a protective tariff upon the upbuilding of Canada's industries, consider for a moment the financial situation which confronts us. Before the war Canada's national debt of $336,000,000, was looked upon with some misgiving and regarded as an undue burden for a nation of eight millions of people to carry. To-day our public debt is nearing the two billion dollar mark, and will probably exceed that sum before our immediate obligations incurred in carrying on the war are provided for. This will impose carrying charges upon the country greater than our total revenues amounted to a decade or so ago. Then we have the extraordinary obligations such as the Government at Ottawa is now assuming—an estimated $60,000,000 annual deficit in railway operating account; a $25,000,000 appropriation to assist the provinces in building houses for their people, a $50,000,000 shipbuilding appropriation; another $50,000,000 canal undertaking, large appropriations for the advance of technical education, good roads and other things, most of them entirely worthy in themselves if the money to pay for them were available. This year's estimates for public



Canadian Flour for Italy

Loading the "War Redcap" at Montreal with a cargo of flour for Italy

purposes, according to a statement made in the House by the Hon. F. B. Carvell, will exceed the estimated revenue by some $300,000,000. Where is this money to come from? True, there are new tax imposts, such as the income tax, the business profits tax and various other taxes, which will necessarily be subject to an increase, but with all these the Government's income will still fall far short of its requirements and will continue to do so for years to come. How can it, then, seriously be proposed to abolish in large part what is and has always been the Government's chief source of reliance for its revenue—the duties collected on imported manufactures? Heaven knows, if the imposition of such duties was ever justifiable from a national standpoint it is trebly justifiable to-day, as well as being absolutely necessary.

Scientific Inquiry Needed

But even if there were any virtue in the demand for a low tariff or the abolition of the tariff at the present time, or any practical way in which the demand could be acceded to without running the risk of national bankruptcy, the manufacturers would still be justified in opposing it. Before there is any attempt made to tinker with the present tariff, there should be a thorough and scientific enquiry, in which the subject should be studied from every angle. Tariff changes should be preceded by due and sufficient notice to all concerned, long enough in advance of their taking effect, in order that those affected may have due time to adjust their business to meet the new conditions. Stability is the first essential of successful manufacturing, and how can a business be regarded as stable that is subject to a 25 per cent. fluctuation in the market value of the commodities it produces by an over-night change in the tariff schedules?

The tariff should long ago have been taken out of the political arena. It is not too late to treat it as a scientific non-political problem. Before any serious changes are made in existing rates, the whole subject should be turned over to a neutral board or commission to determine what is best alike in the interests of the country, in the interests of the farmers and in the interests of the manufacturers. The Canadian farmer was never more prosperous than he is to-day. He, at any rate, is not suffering. If free trade is essential to his future prosperity, he, at least, can afford to await the outcome of a scientific enquiry into the facts. Sooner or later, when these facts are brought home to him, he will be convinced that in the last analysis his prosperity rests upon a prosperous and successful industrial Canada, and that manufacturing is no less essential to the country's well-being than is agriculture.

Unemployment and Labor Unrest

Coupled intimately with the question of the tariff is that of labor. Never probably in the history of the Dominion were industrial conditions at as acute a stage as they are to-day. The rapidity with which men have been repatriated from military to civil life has made it impossible for industry, though trying its utmost, to absorb them. The high cost of food and other necessary commodities, due largely to a world shortage therein, has aggravated the situation, until we are confronted with outbreaks such as that in Winnipeg.

From this distance and with the meagre information that comes to us, it is not altogether easy to judge of the situation in that city. Two or three things are quite apparent, however. It is certain that the spirit that pervades the enforced shutting down of the industries and which has to some extent usurped the functions of government is not the British spirit as we have always understood it. It is not the Canadian spirit. It is not even the spirit of true trades-unionism. Rather, it is the spirit alien to democracies such as Great Britain and Canada. It is the spirit of the Russian Bolsheviki, and it has no place in this country. It should be driven out, root and branch. Its advocates, who are alike alien in spirit and in fact, and a menace to Canada, should find no shelter here. One of the most deplorable features of the Winnipeg situation is that some of the labor unions involved in the general strike have gone out in violation of agreements with their employers. They have treated these agreements as so many scraps of paper, and, to a large extent, they have undermined confidence in the good faith and integrity of trades-unionism in this country. That is one of the most unfortunate features of the Winnipeg strike, so far as I see it. Allowances, of course, must be made for those who are acting under duress. It is altogether probable that many of the strikers did not go out on their own volition. But when all allowances are made, trades-unionism will find to its regret that it has gained nothing by allowing the irresponsible element to lead it astray.

Any attempt to force a lower tariff at the present time must necessarily intensify unemployment and labor unrest. Industry cannot be carried on under uncertainties. Employment cannot be assured if the manufacturer is uncertain of his market or is left to the hazard of politics as to trade conditions which are to govern him.

Mutual Conciliation

The present labor situation can only be met by mutual conciliation and co-operation between Capital and Labor. Each must allow the other's right to exist. Reason must be re-established. In Great Britain, the Whitley Industrial Councils System is being employed to good advantage in bridging the industrial difficultits encountered during these trying days of post-war reconstruction. In the United States a somewhat similar system, inaugurated by the Rockefeller Institute, is being tried out with more or less success. Neither of these systems has, as yet, been tried out to any marked extent in Canada, so far as I am aware, although several projects, not unlike them, are now in force in some of the industries in this province and are, I am informed, having extremely beneficial results. Quebec, in fact, outside

of Montreal, we are happy in stating, has been less seriously affected by labor troubles this spring, than almost any of the other provinces.

In this connection it will be of interest to await the report of the Royal Commission on Industrial Relations now making an investigation of labor conditions in Canada on behalf of the Dominion Government. If it should appear from their enquiry that collective bargaining between groups of workmen, whether organized as trades-unions or otherwise, and between groups of employers is advisable, or that some other method is best applicable to the situation in Canada, there is no doubt in my mind that the manufacturers will loyally and willingly accept such a finding and do their utmost to give it effect. The measure of its success, however, in my opinion, will be based upon the extent to which it embraces the principle of co-operation between employer and employed, and the very essential condition as to how each party can be held to a faithful performance of obligations undertaken on its behalf.

Expansion and Prosperity

With Labor and Capital established on a proper understanding and mutually observant of each other's rights, there is no reason why Canadian industry should not at once enter upon a period of expansion and great prosperity. This country is already blessed, in greater degree than any other, with limitless raw materials of every sort and kind. One-half of the manufactured articles which we now import could just as readily be made in this country, thereby adding to our national wealth, giving employment to our surplus labor, and enabling us to increase our all-essential export trade. Take machinery, as a single instance. How many of our factories are equipped with foreign-made machinery which might easily have been made in Canada, if some one had the necessary initiative and enterprise. If I may be permitted to refer to my own business, I may say that we have recently placed orders to the value of over $100,000 with Canadian manufacturers for machinery formerly brought in from abroad, and I confidently believe these orders will result in building up a new industry to supply Canada with things which it was formerly believed could not economically be manufactured here, the belief being based altogether upon the fact that no one had ever tried the experiment. There are scores of similar opportunities only waiting development.

If the war has taught us nothing else, it has at least taught us that the Dominion is a self-reliant country, capable of meeting any emergency, and able to produce anything required by its people. On a basis of population, Canada led the world in producing the munitions of war. There is no good reason why Canada should not be equally to the fore in producing the munitions of peace.

Public Ownership

Linked closely with our after-war problems and, perhaps, taking precedence of all of them, is that of our railways. Many citizens of the Dominion, who hold their country's welfare very much at heart, regard with feelings of the utmost misgivings the headlong plunge our Government seems to be making into the unknown and wholly experimental sea of public ownership and public control of the greater part of our transportation systems. Undeterred by the experience of the United States—an experience which, in the opinion of many sound thinkers in that country, threatens that wealthy nation with financial embarrassment and which has converted President Wilson to the policy of private ownership—undismayed by the almost equally unfortunate results of similar experiments in Great Britain and Europe, our Government seems bent upon forcing upon us a policy of public ownership irrespective of its results, and irrespective of the inappropriateness of the present time for experiments involving the outlay of hundreds of millions of dollars, when every dollar the country can exact from the people is needed to meet pressing war claims, such as those imposed by the demobilization of our troops, the payment of pensions and other expenses which cannot be avoided. Whatever merit there may be in nationalized railroads, Canada's experience has not been such as to bring them to light. Our past experiences in that respect have been costly and discouraging and not such as to induce further experimentation. It would have been better, in my opinion, had the Government awaited the outcome of the experiments now being carried out in the States, before embarking definitely upon so hazardous a project. Experience has proved two things beyond the shadow of a doubt—first, that public utilities cannot be operated as efficiently or as economically under Government ownership as they can under private ownership; second, that it is impossible to divorce political manipulation from publicly-owned utilities. These, to my mind, offer insuperable objections to public ownership, and it is with very great reluctance that I see the steps now being taken in Ottawa to fasten this unwelcome system irrevocably around the necks of the Canadian people. It would have been much better, in my opinion, for the Government before committing the country to this policy, to have at least sought a mandate from the electors for so doing, and thereby have given a chance for the sober common sense of the people to have asserted itself.

There are many other questions and problems which I should have liked to have touched upon did time permit, but some of these will come up for discussion in connection with our programme. I am glad of the opportunity of welcoming you to this our annual meeting of the Montreal branch of the Canadian Manufacturers Association and to express the hope that our gathering together may not be without beneficial results to all concerned.

ARE THEY OPPRESSED?

The number of automobile users in Western Canada continues to grow, states "Western Canada Week by Week." In Saskatchewan approximately forty thousand licenses have been issued already this year and applications are still being received. This number far surpasses the number issued during the same period of last year, and is partly due to the new settlers who are daily taking up land in the province, and to the fact that many farmers are now providing themselves with additional cars.

The Chicago Bridge & Iron Works have removed their general sales office from the works to the same space on the fifteenth floor of the Old Colony Building, Chicago, which they occupied previous to the war.

Maritime Branch Holds Annual at Halifax

Good Attendance of Members—Several Interesting Addresses Delivered—Angus McLean, Bathurst Lumber Co., Succeeds W. S. Fisher as Branch Chairman—A Number of Resolutions are Adopted

By H. R. THOMPSON
Secretary, Maritime Branch, C.M.A.

THE annual meeting of the Maritime Branch, C.M.A., was held at Halifax, on Wednesday, May 28th, in the Board of Trade rooms. About 60 delegates were in attendance and the sessions continued throughout the morning, afternoon and evening.

The reports of the officers and committees were received and illustrated the important work being carried on by the branch. In his report the chairman, Mr. W. S. Fisher, reviewed the activities during his term of office and also the general industrial conditions obtaining during the war and since the signing of the armistice. He also pointed out various problems which should be considered and dealt with toward the further development of the Maritime provinces.

The officers and committees which were appointed for the coming year are as follows:

Officers and Executive

Chairman—Angus McLean, Bathurst Lumber Co., Bathurst, N.B.
Vice-Chairmen—R. H. MacKay, Canada Tool and Specialty, Ltd., New Glasgow, N.S.; L. W. Simms, T. S. Simms & Co., St. John, N.B.; A. G. Robb, Robb Engineering Works, Ltd., Amherst, N.S.
Executive—S. E. Elkin, Maritime Nail Co., St. John, N.B.; Clifford McAvity, T. McAvity & Son, St. John, N.B.; C. D. Dennis, Canadian Car & Foundry Co., Amherst, N.S.; A. D. Ganong, Ganong Bros., St. Stephen, N.B; E. E. Shaw, Shaw & Mason, Ltd., Sydney, N.S.; J. L. Macdonald, Atlantic Underwear, Ltd., Moncton, N.B.; H. S. Crowell, New Burrell-Johnson Iron Co., Yarmouth, N.S.; A. R. McPherson, Windsor Foundry & Machine Co., Windsor, N.S.; Geo. W. Helliar, Brandram-Henderson, Ltd., Halifax, N.S.; C. M. Crockett, I. Matheson & Son, Ltd., New Glasgow, N.S.; J. A. Marven, J. A. Marven, Ltd., Moncton, N.B.; J. T. Cumming, J. W. Cumming & Son, Ltd., New Glasgow, N.S.; Chas. V. Monaghan, Moirs, Ltd., Halifax, N.S.; W. D. Piercey, Piercey Supply Co., Ltd., Halifax, N.S.; J. A. Reid, Hartt Boot & Shoe Co., Fredericton, N.B.; C. S. Sutherland, Amherst Boot & Shoe Co., Amherst, N.S.; W. T. Ritcey, Acadia Gas Engine Co., Ltd., Bridgewater, N.S.



Angus McLean
Bathurst Lumber Co., Bathurst, N.B.
Elected Chairman, 1919-20, Maritime Provinces Branch

Secretary—H. E. Thompson.
Ex-officio—W. S. Fisher, Emerson & Fisher, Ltd., St. John, N.B.; Archibald McColl, Nova Scotia Steel & Coal Co., New Glasgow, N.S.; F. Magee, F. Magee Limited, Port Elgin, N.B.; Alex. Wilson, Wilson Box Co., Ltd., St. John, N.B.

List of Committees

New Brunswick—J. A. Reid, Angus McLean, T. H. Estabrooks.
Nova Scotia Legislation—R. H. McKay, A. H. Whitman, A. G. Robb.
Promotion of Accident Prevention Association in New Brunswick—L. W. Simms, Angus McLean, G. C. McAvity.
Power Development—Angus McLean, J. A. Reid, A. A. Colter, W. D. Piercey, H. L. Fenerty, C. V. Monaghan.
Transportation—Angus McLean, H. R. Silver, A. H. Whitman, A. McColl, J. A. Marven, W. S. Fisher, L. W. Simms, A. D. Ganong, J. D. Palmer.

An illustrated lecture on "Accident Prevention" was given by G. H. Greenfield, Safety and Fire Prevention Engineer, of the Canadian Car & Foundry Co., and Canadian Steel Foundries, Montreal. The Strand Theatre was kindly put at our disposal for this address, which proved both interesting and educative.

The visiting delegates were entertained at luncheon at the Green Lantern Café by the Halifax members. Mr. H. R. Silver presided at this gathering, and, after welcoming the delegates to the city, emphasized the necessity for the development of export trade, and also for a careful study of the transportation problem, which is now the source of considerable worry to the Maritime manufacturers.

Following Mr. Silver, the Hon. O. T. Daniels, Attorney-General of Nova Scotia, gave a very interesting address, dealing with the situation in Nova Scotia as regards the development of water-powers. He pointed out that there were opportunities for greater economic power development than would be needed for years to come, and that the local Government was taking active steps toward the early development of these resources. He also stated that the Maritime manufacturers occupied a favorable geographical position for the development of export trade which is so necessary to offset the national debt. He further stated that it was up to the manufacturers, more than to any other class, to put the Maritime provinces on the map.

Following Mr. Daniels, Mayor Hawkins gave a short address of welcome and took the opportunity to point out the advantages in Halifax for the locating of other manufacturing concerns.

At the afternoon session the members were favored with a review of the workings of the N. S. & N. B. Compensation Acts, by F. W. Armstrong, vice-chairman of the N. S. Board, and J. A. Sinclair, chairman of the N. B. Board. These addresses brought forth considerable discussion and cleared up a number of misundersandings.

The evening session was taken up with the discussion of Transportation Problems, Industrial Unrest, and the consideration and adoption of the following resolutions:

Maritime Union

Resolved, that this meeting of the Maritime Branch, C.M.A., reaffirms the resolutions passed at the December meeting on the subject of Maritime Union, and suggests that the incoming Executive take early action along the lines at that time suggested. It

is felt that the subject is of such importance that vigorous action should be taken in the hope that some tangible results may be obtained in the near future.

Transportation

Resolved, that the question of Transportation is of such extreme importance that it is felt it cannot be properly dealt with at this general meeting and the subject is respectfully referred to the incoming executive for special consideration, with the hope that such early and definite action as may be deemed advisable will be taken on this most important problem.

Development of Power

Whereas, in previous resolutions adopted by the Maritime Branch, C.M.A., the desirabliity of developing the water powers of the Maritime Provinces was brought to the attention of the Provincial Governments, and,

Whereas, it is now possible to develop power cheaply from our native coals, by erecting special power plants in close proximity to the coal mines of these provinces; and,

Whereas, it is of the greatest advantage to develop every possible economic soure of power in order that our manufacturing industries can use these resources and be placed in as good a position, respecting needed energy, as the manufacturers of the other provinces:

Therefore, be it resolved, that at this meeting of the Maritime Branch, C.M.A., assembled at Halifax, this 28th day of May, 1919, we do memorialize our Provincial Governments to extend to every bona fide company which is prepared to proceed to develop these resources, every possible encouragement and assistance in order that the work can be commenced without delay and rushed to completion, and also to pass such legislation as may be necessary to enable them to proceed with such development and utilization, and we further recommend that such water power resources as are now held by individuals or corporations for speculative puposes should be secured by the Provinces and so handled that they may be used for the best welfare of the people.

Further, resolved, that copies of this resolution be sent to the Maritime Board of Trade and Government officials with the request that the proposal outlined receive their hearty and active support.

Fire Waste

Resolved, that this meeting of the Maritime Branch, C.M.A., notes with great satisfaction that the Government of Nova Scotia has, at this last session, enacted legislation establishing the office of fire marshal, from the establishment of which office much is expected in the decrease of fire losses with the consequent conservation of the wealth and resources of the Province.

In conformity with the resolution previously submitted, the hope is expressed that similar action will be taken by the legislatures of the Provinces of New Brunswick and Prince Edward Island at the next session.

Prairie Provinces Branch Reviews Its Year

Membership Now Stands at 526, a Gain of Ten for the Year—Much Effective Work Accomplished by the Legislation and Transportation Committees—Mr. E. Parnell Elected Chairman for 1919-1920

By G. E. CARPENTER
Secretary, Prairie Provinces Branch, C.M.A.

MEMBERS of the Prairie Provinces Branch turned out in good numbers on the evening of Thursday, May 8, for the annual dinner and business meeting of the branch. The chair was occupied by the retiring chairman, Mr. N. W. Warren, who, following the dinner, read his annual report reviewing the work of the branch for the year. (The address will be found appended to this article). On motion of Mr. F. W. Drewry, seconded by Mr. Wm. Martin, the thanks of the members of the branch were extended to Mr. Warren for his services, and the secretary was directed to have the address printed and distributed.

The report of the Transportation Committee was read by Mr. W. R. Ingram, chairman of the committee. It referred to the success met with by the committee in securing the cancellation of an objectionable clause in the Interswitching Order of the Board of Railway Commissioners, which would have required manufacturers to ship by the railway on which their plants were located. Mention was also made of the tariffs, filed by the railway companies, increasing the stopover charges for milling or cleaning grain in transit from 1 cent to 2 cents per 100 lbs. The committee succeeded in having this tariff suspended. Another valuable piece of work was done in preventing the railways from increasing charges for local switching service until the basis for such charges for services performed in Eastern Canada was established.

Legislative Committee

In the absence of Mr. E. Parnell, chairman of the Legislative Committee, the report of this committee was read by the secretary. It dealt at length with the action taken by the branch on various measures introduced in the western Legislatures, notably the Minimum Wage law for females in Saskatchewan, which is based on the Manitoba law and was endorsed by Saskatchewan employers; the Industrial Disputes Act in Manitoba, which received the support of the Association, but did not meet with the approval of labor; the Workmen's Compensation Act amendments in Manitoba, etc. The committee endorsed the Bankruptcy Act as submitted by the Canadian Credit Men's Trust Association and now before the Dominion Parliament, and opposed the request of the Trades and Labor Council for the passage of an anti-injunction law.

The report of the Membership Committee was read by Mr. J. M. Thompson. It showed that applications had been received from 16 firms; six firms, which have gone out of business, resigned; and there was a net gain in membership of 10, making the total 526. The sections of the branch established in Western Canada showed increased activities and in some cases practically all the industries were identified with the section.

The report of the Nominating Committee was next read and the elections proceeded with, resulting in the unanimous election of the gentlemen proposed for the various offices and committees in the committee's report. These were as follows:

Chairman—E. Parnell.

Vice-Chairman—L. R. Barrett.

Executive Council—Messrs. J. O. Thorn, N. W. Warren, T. R. Deacon, J. E. Wildman, F. W. Drewry, Wm. Martin, M. F. Christie, W. G. Fraser, W. H. Fulton and A. B. Stoval.

Executive Committee—Messrs. J. Carruthers, D. J. Dyson, F. J. Baker, W. C. MacLaren, C. J. Brittain, W. A. MacKay, J. L. Crossen, L. J. Rumford, H. B. Lyall, J. Horn, H. M. Tucker, H. Echlin, of Winnipeg; and Messrs. Chas. Watson, Regina; H. G. Love, Moose Jaw; F. M. Beatty, Saskatoon; Chas. Pratt, Medicine Hat; Wm. Georgeson, Calgary; C. A. Graham, Edmonton, and George White, Brandon.

Transportation Committee—Messrs. W. R. Ingram (Chairman), J. Minnick, L. C. Stephens, J. Brittain, P. Shea, H. F. Anderson, W. J. Breen, A. E. Donavon, D. A. Clark, D. Dingle, E. G. Parker, H. A. Eager, J. S. Menzies, J. L. Costello, of Winnipeg, and A. Mihalko, Saskatoon; W. J. Harper, Moose Jaw, and P. M. Ames, Brandon; Wm. Innes, Calgary.

Membership Committee—Messrs. J. M. Thompson (Chairman), C. F. Roland, Jr., C. E. H. Harvey, P. G. Grout, W. A. Lawson, H. H. Clare, W. A. MacKay, A. L. Welton, B. G. Windrum, G. W. Murray, A. Davidson and W. T. Kennedy.

Insurance Committee—Messrs. H. B. Lyall (Chairman), C. W. Wardrope, J. Horn, W. Hood, D. N. Finnie, C. W. Veysey, J. S. Henderson, P. J. Smith, T. A. Harp, C. W. Furrow, H. L. Willson, Winnipeg, and T. Reynolds, Saskatoon; R. B. Hunter, Edmonton; J. P. Davies, Medicine Hat; Geo. Harrison, Moose Jaw; A. R. McDiarmid, Brandon; Wm Martin, Winnipeg.

The committee did not suggest nominations for a standing committee upon legislation, believing that, inasmuch as

matters coming under this heading have usually to be referred to the Executive for instructions, better progress would be made in handling legislation if left in the hands of the Executive to appoint special committees to deal with the various laws or proposed laws.

Mr. L. R. Barrett, the new vice-chairman now took the chair and thanked the members for the honor paid him in his election. A report was next presented by Mr. W. R. Ingram, chairman of the special committee appointed to draw up a report on industrial relations for submission to the Royal Commission. This was explained at some length by J. B. Hugg, K.C., solicitor of the branch, and a debate followed. Finally the report was referred back to the committee so that the views of the meeting on several points might be embodied in it.

A resolution was passed expressing the satisfaction felt by manufacturers in the completion of the aqueduct for the Shoal Lake water supply.

Major Anthes, Director of Soldiers' Civil Re-Establishment and Ex-Chairman of the Toronto branch, was present and addressed the meeting, explaining the work that the Department was endeavoring to carry out and bespeaking the co-operation of the manufacturers on behalf of the returned men.

Address of the Retiring Chairman

By N. W. WARREN
Chairman, 1918-19, Prairie Provinces Branch, C.M.A.

FOLLOWING the established custom, I ask you to bear with me for a few minutes while I review briefly some of the phases of the work of the Branch during the past year that I have had the honor of acting as your Chairman.

For over four years Canada has been laboring under the cloud of a world war which has no parallel in history. Shortly after its commencement, when the indications were that most of the people of this world would be embroiled in the controversy of might vs. right, grave concern was expressed as to the effect of such a war upon Canadian industry, and while you are all familiar with the grand response which it made and the large part which it played in enabling the Allies to stem the advance of the Hun, I want to refer briefly to the fact that while Western Canada was little known as an industrial community, it is a fact that the plants in this territory made an enviable record in turning out munitions, foodstuffs and other supplies for the Allied Governments. In fact, the initiative displayed by the management and the workmen in such plants was simply wonderful. Now that this dreadful war is over and it is expected that a treaty of peace will shortly be signed, steps must be taken to make the greatest possible use of the machinery that has been created during the war for even greater production upon a peace basis, if Canada is to pay the enormous debt she has incurred in doing her part in the fight for democracy, and she is to maintain the position in the world that her valiant sons have made for her upon the field of battle.

One hears a great deal upon the subject of reconstruction and in this field the manufacturers must play an important part.

Difficult to Make Plans

The sudden cessation of all war orders and work upon military supplies left many manufacturers who had devoted much, if not all, of their efforts in production of war supplies without a business almost overnight. It therefore behooves all such manufacturers to spare no effort to re-establish their businesses upon a peace basis and furnish employment to the greatest possible extent. It is unfortunate, however, that under these conditions there should be such a strong demand from the farming interests in Canada for a radical revision in the fiscal policy of the nation that it has made it extremely difficult for manufacturers to make changes in plans and embark upon new enterprises involving large sums of money, owing to the fact that they do not know what their position may be under possible action of Parliament at this session upon the tariff. This uncertainty, coupled with the ever-increasing demand of labor for higher and higher wages, with reduced working hours, has made it impossible for manufacturers to consummate plans for greater production made when the armistice was signed. I scarcely need point out to you, and yet I feel it my duty to do so, that unless work is furnished for large numbers of artisans who desire employment in industries, there will be a very serious condition of unemployment during the coming winter. Therefore, I appeal to each one of you to spare no effort to avoid such a contingency.

The Labor Situation

As to the Labor situation, this is a very large matter and one upon which I shall make no prediction, but simply confine my remarks to reviewing what has been done by the Branch, with the intention of showing you that no effort has been spared by it to meet labor in a reasonable manner, but up to the present, unfortunately, any advance made by the Branch to organized labor has met with rebuff. Several months ago the Executive appointed a special committee to investigate industrial relations. The committee obtained pamphlets embracing the views of organized labor, employers and many economic writers, all over the world, upon the subject. About the time of the soldiers' riots this committee was about to make a report. When Mayor Gray appointed the Committee of Twenty for the purpose of clearing up the situation resulting from the soldiers' riots, Mr. Parnell moved a resolution, seconded by a returned soldier, calling for the establishment of a commission upon which organized labor and employers would be equally represented, with a disinterested chairman appointed by the Government, to deal with industrial relations, with a view to lessening or overcoming interruptions in industry. Unfortunately, after consulting the Trades and Labor Council, its representatives on the Committee of Twenty refused to have anything to do with such a commission.

Following this the Premier, Hon. T. C. Norris, asked the Branch and the Trades and Labor Council to appoint representatives to meet with a committee of the Government to discuss the matter of industrial relations, with a view to working out some plan for the adjustment of disputes without interruption to industry. Your Committee attended this conference and expressed a willingness to join in some arrangement with this end in view, but, unfortunately, the representatives of the Trades and Labor Council refused to have anything to do with such a plan, again stating that they had their own means of enforcing their demands. Notwithstanding this, however, the Premier introduced a bill at the last session of the House providing for the establishment of an "Industrial Tribunal" to investigate and report upon

the hours and conditions of labor, rates of wages, cost of living, etc. When this bill was before the Law Amendments Committee the representatives of the Trades and Labor Council opposed it strongly, openly stating that capital had no rights and that they refused to deal in any manner with representatives of capital. However, the bill was passed and brought into force. The Premier called upon the Branch to name five gentlemen, any two of whom might be appointed upon the tribunal, and this request was complied with. A similar request to the Trades and Labor Council bore no fruit and up to date organized labor has refused to nominate any representatives to sit on the tribunal, nor, so far as I can learn, has the Government succeeded in getting any representatives of the workers to accept an appointment. So that the Premier's efforts to bring about better conditions between employees and employers have been blocked by organized labor.

The One Big Union

Subsequently, at a conference of the representatives of the various trades unions in Western Canada, held at Calgary in March, when a demand was made for a six-hour day, it was decided to form what is known as the One Big Union, several of the most radical representatives of organized labor having become dissatisfied at the action of their respective international trade unions in refusing to sanction certain strikes and sympathetic strikes which local unions throughout the West desired to call without good cause.

The One Big Union plan would overcome this restraining influence and its purpose was to unite organized labor in Western Canada into one solid mass for the dictation of shorter hours and materially increased scales of wages. As might be expected, such a radical step as this, involving separation from international unions which had afforded material relief in the past, has met with some opposition from the more level-headed element among the trades unionists in Western Canada. In fact, at Edmonton the President of the Trades and Labor Council has declared the seats of the representatives of some locals on the Council vacant, under the constitution of the American Federation of Labor. In Eastern Canada the One Big Union Movement appears to be pretty generally disapproved of.

Appreciating the unrest that exists in the country, and particularly in Western Canada and the Pacific Coast, the Dominion Government recently appointed a Royal Commission to investigate conditions and report upon some scheme for the improvement of relations between employees and employers. This Royal Commission is holding sittings in Western Canada at the present time and will be in Winnipeg on May 10th, 12th and 13th. A committee of the Branch has been busily engaged studying the situation and will to-night report to you what action should, in its opinion, be taken by this Branch when the Commission sits in Winnipeg. We are at the present moment in the midst of a very grave situation and I know that you will give this report the serious consideration that conditions warrant.

Anti-injunction Legislation

I cannot close my remarks with regard to the labor situation without referring to the demand made by the Winnipeg Trades and Labor Council upon the Government of the Province of Manitoba to pass what is commonly known as "Anti-Injunction Legislation." That Council actually demanded that the Province should enact legislation declaring that the action of any person or persons on behalf of a trades union should not be subject to restraint by the Courts of the Province. This, notwithstanding the fact that in several cases employers have been able to show sufficient unlawful acts and threats to obtain injunctions from local courts restraining the parties making them and others connected therewith, from doing such unlawful acts. Naturally your Executive strenuously opposed the passage of this bill, and it was not enacted. However, while this bill was not passed, I am sorry to say that, notwithstanding our objections, the Government included a clause in the Industrial Relations Act, providing that the Industrial Tribunal may declare effective what is equivalent to the Anti-Injunction Law referred to above. However, with the record of past cases available, and the fact that employers would be represented on the Industrial Tribunals, it is not conceivable that this clause of the Act should be ever brought into force by the Tribunal.

After several years spent in the construction of an aqueduct from Shoal Lake, Winnipeg is now enjoying the benefits of a supply of splendid soft water. This will mean much to our members who have experienced difficulty from the deposits resulting from the use of hard water, and to others for which soft water is much preferable in their business. However, the Branch should make every effort to see that the soft water is sold upon a commercial basis and not, at the present time at least, upon a basis of making the present users pay upon the cost of the undertaking which has been constructed in such a manner that it will meet the requirements of a city of half a million of people, with at the present time about one-third of this number in the city who will use the water.

Compensation Rates

In January, 1919, the Casualty Insurance Companies writing Workmen's Compensation Insurance in Manitoba applied to the Workmen's Compensation Board for an increase in rates, amounting to 83 per cent. The Board retained the services of an actuarial insurance expert to advise it. This gentleman supported most of the requests made by the insurance companies. The Branch was represented at all hearings by its solicitor, Mr. J. B. Hugg, K.C., and its secretary, and contended that it had not been established that the insurance companies were entitled to increases applied for in compensation rates, but that their demands should be made by an effort on the part of the Board to restrict their awards to the amounts called for by the Act, to restricting administration expenses and by adopting a different scheme to estimate pension reserves.

How successful the Branch was I will leave you to judge when I tell you that the rates finally approved by the Workmen's Compensation Board provided for increases averaging less than 30 per cent., as against the 86 per cent. asked for by the insuring companies.

Transportation Matters

In common with ever-increasing costs, the past year has seen a further increase in transportation charges, in the shape of an additional 15 per cent. increase in freight and passenger rates. With the long distances that materials have to be transported to the Prairie Provinces and the finished articles have to be hauled to consuming markets, a general increase in transportation charges is a matter of serious moment to Western manufacturers. However, having in view the fact that all the materials and labor the railways purchased have greatly increased in price, and the only manner in which they could be reimbursed was by increased tolls, the Branch did not oppose this advance, on the condition that it would be treated as a war measure and without prejudice to an automatic revision to previous rates when conditions become normal. With the continued demand for increased wages from their employees, however,

it looks as though normal conditions might not be expected for some time to come, and that we shall have to conduct our businesses under the present transportation tolls for some little time.

Express Rate Increase

The express companies operating in Canada also applied to the Railway Commission for permission to increase their charges, stating that they had incurred loss in past years, and would require 25 per cent. additional revenue the coming year. However, the scale of rates proposed by the express companies did not provide for a general advance of all rates, but for an entire change in the method of assessing express charges, with the result that some rates were increased as great as 280 per cent. Many of the proposed rates bore unduly upon manufacturers and the Association raised very strong objection to the manner in which the express companies proposed to raise the additional revenue, contending that any advance authorized by the Railway Commission should apply equally to all traffic. No decision has yet been rendered.

I feel it my duty to make some reference to the operations of the Minimum Wage Board for Females in Manitoba. While some members may not have been in full agreement with every award made by the Board, I believe that, generally speaking, they are satisfied that our representatives upon the Board have carefully protected the interests of employers to the greatest possible extent, consistent with their duties under their oath of office. There is no doubt that the action taken by the Branch last year in securing the establishment of the Minimum Wage Board for Females, in opposition to the request of the Trades and Labor Council that a Statutory Minimum for all classes of female workers be placed in the Act, has been justified by subsequent developments, as had the Government adopted the other scheme we should have had demands for a very materially increased minimum to be placed upon the statute books at the last session.

Returned Soldiers: While I believe that it may be unnecessary, still I feel it my duty at this time to make an earnest plea to you for the sympathetic consideration of the re-establishment of returned soldiers in civil life. When you think of it, it is hardly to be expected that men who have been living in the manner they have been compelled to live for the protection of this country, should be able to in all cases revert to an entirely different mode of living upon short notice. No doubt you will run across cases which may be exasperating, but, on the other hand, you will no doubt also be glad to welcome back some of the very best men that you have ever employed. Time, it is said, is a great healer, and patience and sympathy in the handling of returned men will, I am sure, amply repay every one of you for its intelligent use.

The Returned Men

In February last the returned men became incensed at the lax manner in which our laws were administered whereby an element in the community was allowed to advocate the very things that the soldiers had been fighting for some years. Matters came to such a pass that radical socialists, who denounced every act of the Government, and in fact in some cases any government, were holding frequent meetings, preaching sedition, and the climax came when a public meeting was called by them on a Sunday afternoon on the market square. The returned soldiers, unable longer to restrain themselves, broke up an attempt to hold this meeting, and wrecked several foreign and socialistic clubs where it was stated that meetings had been held. Unfortunately, getting beyond the control of their leaders, they threatened and made demonstrations against factories in the city where aliens were employed, demanding that they should be discharged and that the Government should at once deport them. Your Executive at once got in touch with the soldiers' representatives, in an endeavor to reach an understanding of their desires, with a view to meeting them wherever possible. After this meeting, it published a full-page advertisement in all of the Winnipeg papers, stating that following their announced policy all Winnipeg manufacturers would welcome back to their old jobs all their employees who had left to join the colors. Further, that employment would be furnished to the greatest possible extent to other returned men, and that wherever an alien enemy was employed and a returned soldier qualified to do the work could be employed, this would be done, and the alien discharged. This was followed by the establishment of a Committee of Twenty by the Mayor, upon which the Branch was represented by five members, with such satisfactory results that there have been no more demonstrations of the character referred to and harmonious relations now exist.

Freight Charge Bonds

During the past year the Canadian Railway War Board has endeavored to inaugurate a practice which I believe is unnecessary, and which to a certain degree casts a reflection upon all business firms with which they have had dealings in the past. I refer to the demand that every firm, large and small, must furnish a bond for the payment of freight charges where credit is extended. This practice of extending credit has grown up for the purpose of facilitating the delivery of shipments and it has been recognized by the carriers that it was just as much in the interests of the railways as the shippers, if not more so. Possibly, owing to the lack of ordinary business judgment, credit may have been extended by the railways to some firms where the practice was not warranted, but the remedy for this was in their hands the same as it lies with any business concern, and that was to refuse an extension of the privilege. In place of doing this, however, the Canadian Railway War Board has demanded that all shippers must file a bond for the payment of freight charges, regardless of the fact that in many cases the railways themselves owe the shippers sums of money many times as great as such shippers owe the railways for freight charges. Under these circumstances the Branch strongly opposed the demand of the Railway War Board, and although certain concessions have been made by the latter from time to time, and the effective date of the Order postponed until June 1st, the Branch has consistently opposed the giving of bonds for the payment of freight charges where credit is extended, and I am pleased to be able to say to the meeting that the Association has been able to convince the Canadian Railway War Board of the justness of its representations, and induced the latter to withdraw the Order.

As the chairmen of the various standing committees will place before you in detail the many important subjects that have been dealt with by the Branch, it is not my purpose to weary you with any extended remarks, but simply to say in closing that I wish to thank the chairmen and members of the various committees for their hearty co-operation and assistance during my term of office. These gentlemen have devoted much of their time to further the interests of the Association in the Prairie Provinces, and I bespeak for them and their successors your loyal and hearty support.

British Columbia Branch Makes Progress

Reports Presented at the Annual Meeting on May 14 Show that Fifty-five New Members were Elected during the Year—Useful Work being done by the Various Committees—Mr. Wm. McNeill Re-elected to the Chairmanship

By HUGH DALTON
Secretary, British Columbia Branch

THE annual meeting of the British Columbia Branch, C.M.A., was held at Vancouver, on Wednesday, May 14. Reports on the year's work were presented by the chairman, Wm. McNeill, Western Power Co. of Canada, Limited, and the secretary, and officers and representatives were elected for the ensuing year. Mr. McNeill was again appointed chairman, with Edwin Tomlin, British Columbia Cement Co., Limited, Victoria, vice-chairman. The Executive Committee consists of the following:

J. W. F. Johnson, B. C. Sugar Refining Co., Ltd., Vancouver.
J. B. Thomson, Jas. Thomson & Sons, Ltd., Vancouver.
E. W. Hamber, B. C. Mills Timber & Trading Co., Vancouver.
H. J. Bigger, American Can Co., Vancouver.
J. H. McDonald, B.C. Manufacturing Co., Ltd., New Westminster.
W. H. Leckie, J. Leckie & Co., Vancouver.
J. R. Duncan, Vulcan Iron Works, Vancouver.
G. W. Wooster, Granby Consolidated Mining, Smelting & Power Co., Ltd., Vancouver.
W. H. Barker, B.C. Packers' Association, Ltd., Vancouver.
J. J. Plommer, Clayburn Company, Ltd., Clayburn.
J. J. Warren, Consolidated Mining & Smelting Co. of Canada, Ltd., Trail.
J. O. Cameron, Cameron Lumber Co., Ltd., Victoria.
N. A. Yarrow, Yarrows, Limited, Victoria.
F. A. Quigley, Vancouver Knitting Co., Ltd., Vancouver.

The following were elected representatives of the branch on the Executive Council of the General Association: Messrs. W. H. Leckie, John R. Duncan and J. W. F. Johnson.

Chairman's Report

The following report was presented by the Chairman, Mr. William McNeill:

"The first year of the work of the British Columbia branch has amply demonstrated the wisdom of the executive officers of the Canadian Manufacturers Association in opening up offices under the management of a salaried secretary, and an honorary executive committee. The Secretary's report will show the progress made in membership, and the interest taken by the Executive Committee in all meetings that were called to discuss matters relative and important to manufacturing industries in British Columbia. Whatever were the causes which led to the undoubted criticism of the Canadian Manufacturers Association in its former existence in this province, it is to be said that the work of the past year has gone a considerable way to removing prejudices, reducing friction, and creating harmony between British Columbia and Eastern Canada. Undoubtedly there are, and will be diversities of opinion regarding many important matters, but diversity is not a synonym for division—and I only express the wish of every member of the Executive Committee in stating that this branch will be of value to the province in continuing the policy which your Executive has initiated in the past year in trying to cement East and West into one great, prosperous Dominion of Canada.

"Western Canada has and must become increasingly important, and it is of prime importance to both East and West to find and establish economic tariff and development relationships and undertakings that will promote harmony and induce prosperity throughout Canada.

"Your chairman has noticed a growing tendency on the part of eastern manufacturers to get better acquainted with the needs and demands of British Columbia—and this branch can have no higher aim than to conserve and safeguard the interests of the manufacturers of British Columbia, and to make known these interests throughout Canada.

"The Executive Committee was divided into the following sub-committees: Legislation, Transportation, Membership, Tariff, Reconstruction and Export—and among the subjects discussed and necessary action taken in the interest of members interested were:

Assimilation of returned soldiers into civil life.
Investigation of industrial conditions.
Labor problems.
Minimum wages for women.
Railway construction in British Columbia.
Reconstruction.
Tariff.
Insurance.
Greater Vancouver harbor development.
Greater Vancouver terminal railways project.
Technical education and vocational training.
Freight rates classification. Freight credits.
Steamship service between Canadian Atlantic and Pacific ports via Panama Canal.
Workmen's compensation.
Shipbuilding as affecting manufacturers of supplies made in British Columbia.

"In connection with the tariff, it may be of interest to note that negotiations have been opened with the British Columbia Lumbermen's Association with a view to securing if possible a preferential tariff agreement with Australia.

"The chairman learned while in Ottawa in March last, that it was the intention of the Government to introduce a bill at the present session of Parliament, dealing with Technical Education and Vocational Training, and for the purpose of assisting such education certain sums are to be paid by the Dominion of Canada to each province in proportion to its population. It is to be hoped that such legislation will become effective this session, and we are in communication with the Provincial Secretary regarding this matter.

"Your chairman visited the head office of the Canadian Manufacturers Association in Toronto twice during the year, and this branch had the pleasure of meeting two of the members of the Toronto branch.

"The secretary has been invited to attend the annual meeting of the association in Toronto in June, and it is gratifying to state that this branch will be represented at the annual meeting by three of its members.

"The thanks of the chairman are most heartily recorded for the enthusiasm and support of every member of the Executive Committee."

Secretary's Report

The secretary of the branch, Mr. Hugh Dalton, then presented his report on the year's activities:

"During the past year the Executive Committee of this branch held twelve meetings, with an average attendance of seven members on each occasion.

"The Legislation Committee held one meeting, the Transportation Committee three meetings, and the Membership Committee eight meetings.

"Various special meetings of different groups of manufacturers have also been held to discuss matters of particular interest to the industries represented.

"A special committee of your Executive also met, in the early part of this year, representatives of the Great War Veterans' Association and the Department of Soldiers' Civil Re-Establishment, to deal with the matter of replacing all

enemy aliens employed in this province with returned men. At this meeting action was taken which was agreeable to the representatives of the returned men, and this action on the part of the special committee was confirmed at a later meeting of the full Executive Committee.

"The membership of this branch of the Association has shown a steady growth during the last year. At the time of the last annual meeting the membership of the branch consisted of fifty-nine firms. During the past year fifty-five manufacturers, representing practically every class of industry in the province, have been added to the membership of the Association, so that the total membership at this date is one hundred and fourteen; and it is confidently expected that as the ability of the Association to be of substantial assistance to its members is demonstrated its membership will materially increase.

"The recent action of manufacturers in Victoria in deciding on the formation of a section of the Association with headquarters in that city, to be known as the Victoria and Vancouver Island Section, is a matter of particular satisfaction, indicating as it does the growing realization on the part of manufacturers in the province that the Canadian Manufacturers Association affords the best possible medium of co-operation among manufacturers in all parts of the Dominion. The Victoria and Vancouver Island section has now been organized under the able chairmanship of Mr. Edwin Tomlin, who has been vice-chairman of the British Columbia branch during the past year.

"During the year the secretary has made a number of visits to different sections of the province, for the purpose of keeping in touch with members, and bringing in new members so that this branch of the Association may be truly representative of all industries in all parts of the province.

"Through the Association's connections abroad, this office has received visits from a large number of business men from China, Japan, Australia, New Zealand and other parts of the world, all of whom were prospective purchasers of products of Canadian industries, and through the assistance given to these visitors, connections have been formed which it is hoped will be of direct benefit to members. This branch has also been able to be of some assistance to visitors who were considering the establishment of factories in this province.

"Your Executive Committee has felt that the Secretary's principal efforts for this first year of the reorganization of the British Columbia branch of the Association should be directed toward building up the membership, and in carrying out this policy the secretary gratefully acknowledges the hearty co-operation of the Executive Commitee and other members of the Association in this province. This office has also endeavored to render assistance to various members on tariff, transportation, insurance, legislation and other matters of particular interest to individual members, and the undersigned is very strongly of the opinion that the knowledge gained in the past year will tend to better efficiency and greater progress in all matters pertaining to the welfare of members.

"Let every member bear in mind that the only reason for the existence of the branch is the use and benefit it can be to its members."

Hamilton Branch's Annual Meeting

By H. E. WATERMAN
Secretary, Hamilton Branch, C.M.A.

OWING to extremely inclement weather, the annual meeting of the Hamilton branch, on the evening of May 16, was very poorly attended, and the address which was to have been presented by Mr. F. H. Whitton, general manager of the Steel Co. of Canada, was postponed.

Mr. H. H. Champ, retiring chairman, presented a splendid report, dealing with the activities of the past year, which covered not only the closing period of the war, but also many complex conditions arising out of the cessation of hostilities.



Geo. H. Douglas
Thornton & Douglas, Limited, Hamilton
Elected Chairman, 1919-20, Hamilton Branch

Mr. Geo. H. Douglas, the newly-elected chairman, addressed the members and spoke optimistically of the future, expressing his intention of bringing the general membership more often together. This, he explained, had been difficult during the period of the war, not only in Hamilton, but elsewhere, but he felt that it would be possible now to arrange for successful and well-attended general meetings, which he felt would bring the membership more closely together and work out for the general good.

The officers and committees for 1919-20 elected at the meeting, were as follows:

Officers—George H. Douglas, Chairman; F. A. Merrick, Vice-Chairman; H. E. Waterman, Secretary-Treasurer.

Executive Committee—Henry Bertram, J. A. McMahon, Cyrus A. Birge, A. F. Hatch, W. B. Champ, H. P. Hubbard, R. Hobson, A. L. Page, Geo. C. Coppley, W. R. Dunn, C. W. Sherman, F. R. Close.

Ex-officio Members—R. R. Moodie, H. J. Waddie, H. H. Champ, W. H. Marsh.

Finance—George C. Coppley (Chairman), N. Slater, W. E. Skelton, C. W. Sherman, K. Bethune, Cyrus A. Birge.

Membership—J. A. McMahon (Chairman), G. W. Robinson, A. F. Zimmerman, W. E. Blandford, C. A. Murton, K. Bethune, G. E. Main, A. T. Enlow.

Municipal and Legislation—A. L. Page (Chairman), A. V. Young, J. W. Millard, D. B. Wood, Geo. A. Simpson, A. C. Garden.

Reception and Entertainment—H. P. Hubbard (Chairman), A. H. Tallman, O. W. Cook, H. G. Wright, P. M. Yeates, James Wagstaffe, F. M. Hatch, C. A. Murton.

Technical Education—F. R. Close (Chairman), H. J. Waddie, C. R. McCulloch, R. C. Fearman, J. A. McMahon, R. A. Robertson, P. Ford-Smith.

Transportation—W. R. Dunn (Chairman), F. H. Whitton, W. R. Drynan, A. F. Hatch, C. A. Hunter, A. T. Enlow, Henry Bertram, F. W. Dean.

Nominated for Executive Council of Association—H. H. Champ, A. F. Hatch, H. J. Waddie, Geo. C. Coppley, W. H. Marsh.

Legislation—H. J. Waddie, A. L. Page, Geo. C. Coppley.

Insurance—J. W. Millard

Transportation—W. R. Dunn, A. F. Hatch.

Tariff—H. H. Champ.

Membership and Reception—H. P. Hubbard, K. Bethune, J. A. McMahon.

Some Observations on Present-Day Unrest

Extremists and Well-meaning Theorists Would Overturn Present Civilization—Sane Workers Should be Met in Spirit of Brotherhood and True Democracy—Profits of Industry Greatly Exaggerated—The Distribution of Wealth

By S. R. PARSONS

Past President, Canadian Manufacturers Association

HE would be a bold man who would hazard even a complete analysis of the present social and industrial situation of unrest, let alone prescribing an adequate remedy. There are some things, however, that are fairly clear and might be stated as follows:

1. There are extremists in the ranks of our industrial workers whose ambition is to overturn all our present civilization and ordered democratic government. They are interested simply in smashing up by revolutionary methods that which is stable and which, although faulty perhaps here and there, is the product of the best thought and effort of all the past. In the effort to obtain the fruit such extremists would cut down the trees and very soon nothing but chaos and disorder would prevail. For such revolutionaries no betterments will suffice. It is difficult at the moment to see where they will land. The overturning of society and government, as at present constituted, and the smash-up of our industrial and social life would not bring better conditions to such people. Russia is surely an object lesson to-day to all the world, and sane labor leaders, like Mr. Gompers, have been the most outspoken in denouncing the evils of Bolshevism, that twin brother of autocracy. Those who have been following the representations of the United States ambassador to Russia and members of his staff, as well as others, before the Senate Committee of that country know that these unbiased witnesses have stated in effect that fully three-quarters of all the industries of Russia are closed down to-day on account of lack of capital to buy raw materials, etc., and, further, that in the small number of industries that are operating the actual wages paid are in many cases less than they were before the revolution. Similar statements have appeared in an official British Government paper. It is, therefore, a question for the State to consider as to how to deal with such elements in our population.

Well-Meaning Theorists

2. It should be pointed out that fuel has been added to the revolutionary fires to be found in our Dominion by a few well-meaning theorists in Church and State, as well as in our college halls. These men are like doctors without a practice. A few years of everyday practical experience would change many of their fine spun doctrines. There are also possibly here and there extremists among employers, who are living in a past age and do not realize that new conditions have sprung up all about them which call for different treatment.

3. Then we have the great sane body of workers who, when capably and intelligently led, desire only that which is right and fair, and these must be met in a spirit of brotherhood and true democracy on the part of employers, who should not only be ready to consider just claims, but whose first business it ought to be to exhibit a real interest in the conditions of those by whom they are surrounded. This, I take it, is the great task before us in Canada to-day. There are, no doubt, many inequalities to be removed, but singing the hymn of hate will never dispel them. *Goodwill is a first consideration.* The management of every industry must realize that unless the conditions of work for all concerned are satisfactory there can be no proper progress. One difficulty in the past seems to have been that there was not enough confidence shown to the workers. Adverse conditions often prevail in business that the workers and outsiders are entirely ignorant of. I believe that there ought to be frequent conferences between all parties interested in any one industry and more frankness displayed on both sides.

Profits Exaggerated

4. The profits of industry have been greatly exaggerated in the minds of many of the workers and they have been led here and there to believe that industries were always both greedy and prosperous. As a matter of fact one of our great writers on industrial problems in England has figured out that over a period of one hundred years the profits of industry, considering the good and the bad times, the capital that has been lost as well as that which has made good, have not been over five per cent. In Canada probably the same comparison would hold good by the addition of the higher values of money which pertain to a new country. Here and there have been notable exceptions, where industries, on account of an enormous turnover or some other fortuitous circumstances, have made extra large returns. Conditions such as here stated make difficult the application of any one system of general betterment as applying to all industry.

5. It is admitted that wealth is unevenly distributed, but probably not to the extent that many of our public speakers have stated. The *New York Times* is authority for the recent statement that seven-eighths of all the incomes of the United States belong to those having an income of $5,000 each per year and less. In Canada there would be a still more even distribution. If the surplus in the hands of the comparatively few were distributed to-morrow it surely would soon be dissipated. It must be remembered that wealth, honestly made and stored up here and there out of profits over and above the labor and other expenses of the day, is available for national purposes and becomes the backbone of our national financial system. The recent experiences through which we have passed in the raising of our Victory loans have surely convinced us that the savings of the people, large and small, alone prevented us from bankruptcy. I am not arguing for men here and there to find an easy method of accumulating large wealth, but where men have been fortunate through special ability or the thrift and savings of the years, it appears to me that the income tax will do what is necessary to relieve them and annex to the purposes of the State a fair share of what they have from time to time.

6. Despite the childish nonsense of some of our extremists and theorists, the only way for Canada to pay her debts and

* Statement presented before the Royal Industrial Commission at its recent hearing in Toronto.

succeed nationally is to produce in field, factory, forest, mine, etc., all that is possible and sell such products at a profit; otherwise national bankruptcy is not far ahead. As with the nation, so with the individual. Spurred on by competition in all the realms of our activities we must do our work with a view to making a margin of profit, otherwise individual bankruptcy stares us in the face. Temporarily employers, on account of inevitable war conditions, enhanced costs of labor, raw materials, etc., may have to do business without profit, but, if so, nothing is surer than that the nation and the people generally will suffer to that extent. Without profits and the stimulus of competition in all our endeavors we would, after passing through the fires of destructive socialism, finally emerge as a race of chattering baboons and drivelling idiots.

Destruction of Individuality

7. It should not be overlooked that if we attempt to destroy individuality in our social and industrial life and bring all men to a dead level we simply destroy human liberty, which must be preserved at all costs. A great lawyer in the United States has put the case well in the following words:

"No two men are equal in ability and character, and if you undertake to make them so then you undertake to make the vicious equal to the virtuous; you undertake to make the extravagant equal to the frugal; you undertake to make the man of character equal to the man who possesses no character; you undertake to make the man who denies himself for those dependent upon him the equal of the man who denies himself not at all and who undertakes to claim that the failure of his life is due to forces outside of himself. So that in the disposition of Almighty God you are interfering with the plan of divine providence every time that through the machinery of the state and in the name of liberty you undertake to create an equality between those who are naturally unequal. But what we have got to undertake is to reconcile individual liberty with social progress. This does not mean that we are going to have less of the stimulation of individual effort, but that we are going to have more of the delivery of the effort of the individual for the benefit and in the service of his fellows.

"We are told we are going to have a social democracy. Very well, but I hope we will determine first what we mean by it. If by social democracy you mean a democracy in which those who work with their hands are to direct those who possess the technical knowledge, the executive ability, and the administrative skill, to guide the highly complex industry of our time, if you mean to say that is the social democracy, then you are simply creating the means of self-destruction. You might as well permit the child to raise his father. You might as well declare that ignorance shall be the master of knowledge, and that skill shall yield itself to the leadership of the unskilful, and that the banker shall turn over his institution to the guidance of the accomplished plumber. I hope we are going to have a social democracy in the sense that we shall have a greater participation in all the efforts of our highly complex system of production shared by all who do the work of production."

8. What then? Let us get down to bed-rock principles. If the welfare of society, of families, and of individuals be the aim, let us seek it directly by considering society as a whole. Human beings need more than comfort, respectability, economic security, and amusement. They need fellowship and association; they need to realize their inter-dependence. We must think of all classes together and not of one class only. If good-will be the basic principle—and this cannot be brought about by legislation and conference—surely the rich would do well not to be ostentatious in their displays and vulgar in their spendings. They should have a real and positive and direct interest in those who have not been so fortunate. Those who are not so well-off should by practising thrift and economy and the exercise of self-denial do everything possible to get a little ahead. I do not speak without personal experience in this matter. We would all probably agree that we are culpable in that we are altogether too extravagant in matters of dress, of houses and furnishings, of amusements, and sometimes in the matter of food. We might possibly carry this view into our public ostentation—government display, fine buildings, magnificent streets, etc., etc.—all, of course, serving many good purposes, but adding to our burdens.

9. In the matter of hours of work, my own conviction is that eight or nine hours a day should be considered ample. Where the work is very hard and wearing, probably eight hours is as much as should be expected. Men ought to have a reasonable time for rest and recreation. If they do not use their leisure hours properly it is the fault of our civilization and opens a wide door of opportunity for all organizations that are formed to serve mankind. It is difficult, however, to lay down an absolute law applicable to all industries, because of the fact that conditions of work in some are light, while in others they are very heavy; also because of the fact that our industries have to compete with industries in contiguous and other countries, and, further, that all industries have not equal ability in dealing with this particular matter. Different conditions governing hours of work obtain in different provinces, making fair competition extremely difficult. This is also true of our international relations. We have to compete with some countries where hours of labor are very long and wages insignificant. If there could be brought about national and international agreements as to hours of work in different industries and possibly some form of protection to our better paid workmen against products made in countries where labor costs were comparatively almost negligible, this might help matters. It can readily be seen, however, that it would afford us no help in our export business. The problem is not easy of solution. I have sometimes thought, while appreciating the good that unions have done in various directions, that if they could be made a little more elastic so that capable, ambitious, thrifty, hard-working men would be clearly recognized and be able to do better for themselves than others of different habits they would be still more helpful to their members. Possibly part of the unrest is often the result of ambition being dwarfed in go-ahead, capable men by the dead level of unionism which exists to a certain extent, but I am glad to know not as largely as heretofore, particularly in England. It must be remembered that oftentimes the real toiler is the woman in the home with a large family to bring up. If shorter hours for the man would mean more association, support, and help in homes and family life it certainly would be a boon.

The Question of Wages

10. The question of wages is a most difficult one, particularly at the present time. Employers are on a war-time basis of general costs, wages, and values of raw materials, and so far as the seemingly high wages are concerned these must be maintained as long at all events as the high cost of living continues. The business that is being done, however, is on a peace basis, which means in most cases heavy reductions of both volume and profit. While on the one hand manufacturers, generally speaking, are not thinking of profits just now, but rather of keeping their organizations going and their people employed, yet it is difficult on account of conditions mentioned to meet the views of many of the employees. On the other hand it is quite clear that the enormous costs of food products, particularly, which must be paid for with such a large proportion of wages, are so high that greatly increased wages are not sufficient to cover the

extra expenditure in many cases. Those who have wages or salaries larger than a low average do not need to spend such a large proportion of them in the actual necessaries of life and, therefore, do not find it so hard to get along. We ought to face this problem very honestly and sincerely and address ourselves to the task of making sure that the costs of living are fair and reasonable at the present time. No doubt when another harvest has been reaped, with the greater production coming into the markets, it will help matters. One of the strange anomalies of the present situation is that the farmers are trying out everywhere for help so that they may increase production, which would be in the interests of all classes, and yet at the same time there are thousands of idle men in our cities who refuse to go out and work upon the farms, even temporarily. This is certainly an uneconomic condition, and it would be doing such idle men no injustice to say to them, "If a man will not work, neither shall he eat." It may be that we in Canada, as well as other nations of the world, have moved up permanently on a higher level so far as all our values of things are concerned, and that we have failed to recognize this. If so, there must be an adjustment which will not only mean higher money wages, but higher salaries, higher incomes, and higher returns in all our social and financial life and undertakings.

11. I am strongly in favor of co-operative working in our industrial life. While it may be difficult to find any one system that is applicable to all industries, yet, if we get into the spirit if such working we will adapt our plans and schemes to the particular industry involved. Failure here and there should not condemn such co-operation. It is quite natural that until we have tried out for a reasonable length of time plans of co-operation we will meet with dissatisfaction now and again. *If these fail, what have we to put in place of them?* This is a question that is serious enough to concern alike employers and employed and I cannot emphasize it too strongly. I find, however, that while in individual industries there is a pretty general feeling of satisfaction among the workers where such plans of co-operation are being tried out, there is at the same time some peculiar force at work outside which seems to destroy the spirit that characterizes relationships within. This is a matter for us to study together. While we are more or less excited and on edge owing largely to our experience of the past four or five years, as well as the destructive tendencies which are abroad, I am persuaded that with patience and an exercise of a spirit of humanity, good-will, frankness, and consideration for each other's interests and rights, we will gradually reach a condition where the pendulum will swing evenly and life take on a happier hue. Co-operation is the key-note. Many do not realize that labor is not the sole creator of wealth; in fact, it has been well stated, "The smaller the amount of labor, i.e., physical effort employed, in relation to the tasks accomplished, the greater the wealth produced." Labor to an almost unlimited extent can be had in Siberia and some other countries, but the laborers are almost starving. *Capital, directing ability, invention, and labor, when all properly combined and related, yield the best returns, which should be open to a fair division.*

Montreal Manufacturers Present Their Views*

By W. P. HUGHES
Secretary, Montreal Branch, C.M.A.

MANUFACTURERS in the District of Montreal have gone into the subject of Industrial Relations very thoroughly. Group meetings were held in the Canadian Manufacturers Association branch offices, when manufacturers of all kindred lines were brought together to formulate their views on this all important topic of discussion.

Committees were chosen from each group, which met in a joint meeting, and the following document was drawn up and presented to the Royal Commission on Industrial Relations, in the City Hall, on Friday, May 30th:

Mr. Chairman and Members of the Royal Commission on Industrial Relations:

GENTLEMEN,—

We are glad of this opportunity of appearing before you to present the views of a very large number of manufacturers representing many lines of industry in the district of Montreal. Group meetings have been held when industrial conditions obtaining in this district were discussed. Representatives from each group were appointed to a joint committee from which joint committee we were elected to come here this afternoon.

We appreciate the importance of the work which you have undertaken, and we congratulate you upon the energy with which you are carrying it forward.

As manufacturers, we believe no greater problem than the one which is your concern at the present moment, faces Canada to-day, and what we have to say is born out of the most serious consideration of these problems.

We are of the opinion that the relations between employer and employee should be based fundamentally upon confidence, co-operation and justice. We must provide a proper relation between employer and employee by creating a new set of conditions. This should be brought about by a plain, common-sense, man-to-man attitude of the employer to employee and *vice versa*.

Wages should be based upon productive power, efficiency and service rendered.

No outside influence should be allowed to come in to disturb the co-operative desires or arrangements between employers and employees in any industry.

The working conditions should be such as will stimulate employees to take a personal interest in their work, and eliminate any ill will which might prevail amongst employees.

We recognize that employers and employees have a mutual interest in each other. Therefore, everything possible should be done to bring about a greater realization of this principle, and any plans adopted should have this for their objective.

The employer should be interested in the general welfare of his employees, and the relation between them should be such as to create a better understanding of their respective problems, so that the problems of each would be fully appreciated by the other.

It is desirable to develop the partnership idea, so that production costs may be reduced to a minimum, thereby creating conditions which will tend towards reducing the cost of living.

Satisfactory economic conditions depend largely upon production, therefore there should be an understanding between employer and employee that production should be maintained upon a high, not a low, standard. This would work to the advantage of the employee, as well as the employer.

The hours of work should be determined by the conditions peculiar to individual industries so that no particular industry will be discriminated against.

With these underlying principles in mind, we beg to make the following recommendations:

1st. That any scheme of industrial councils, in so far as it depends upon a highly organized condition of employers and employees is inapplicable to many industries in Canada at the present time, for the reason that Canadian manufacturing is decentralized and the conditions surrounding manufacturing in the various provinces are highly diverse. There are,

* Memorandum on Industrial Relations prepared after conference of manufacturers of the district and laid before the Royal Commission on Industrial Relations at its hearing in Montreal on Friday, May 30th.

however, several schemes at present in operation in Great Britain and the United States which have meritorious features that should in time be applied to industry in Canada.

2nd. Realizing the great and immediate necessity for bettering relations between employers and employees, we would respectfully suggest that the Commission recommend to the Government:

(*a*) That every employer in Canada establish a system within his own plant whereby the relations between himself and his employees may be made the subject of friendly and intimate discussion;

(*b*) That in order to provide a remedy where such discussion does not lead to any satisfactory agreement, permanent district courts of appeal be formed, to which any employee or group of employees, or any employer or group of employers, may carry such discussion without prejudice one to the other, and with the understanding that the decision of this district court shall be final and binding upon both parties concerned. It is suggested that these district courts might well be composed of two representatives of employees, two representatives of employers and one judge of the Superior Court of the district. It is further suggested that the territorial jurisdiction of these district courts should be determined in accord with areas in which similar industrial and living conditions prevail;

(*c*) That a national industrial board be established, whose functions shall be advisory to the district courts in matters of national interest, especially as they apply to the export trade of Canada.

3rd. That inasmuch as the above suggestions would provide adequate and just methods for settling all industrial disputes and inasmuch as lockouts and strikes are detrimental to the community at large, legislation should be enacted to make these illegal.

4th. In order that industrial conditions affecting the relations between employers and employees shall be systematically reviewed, we recommend that the Government shall submit to individual manufacturers, at regular intervals, questionaires which, when filed, will provide the data necessary for making regular surveys of industry. In so far as this survey applies to the employer, the same shall be responsible for the supply and accuracy of information asked for. Where it applies to labor, and where such is organized, it shall be addressed to such organized body, and the same shall be responsible for the supply and accuracy of information. Where it applies to labor and no organization exists, it shall be addressed to the employer and he shall be the guarantor of the supply and accuracy of the information. To make this recommendation effective, it is submitted that all labor organizations should be incorporated.

5th. If the terms of reference to your Commission permit the consideration of this matter, we wish to say that we are unalterably opposed to strikes among federal, provincial or civic employees, especially among those engaged in the protection of life, health and property. We are of this conviction for the reason that any general cessation of work by this class of employees creates a condition in which the community is left without protection from the gravest possible dangers, which we submit is altogether intolerable. At the same time, we fully appreciate that every facility should be given such employees to state and obtain redress for their grievances.

Labor's Shield Against Bolshevism

By SAMUEL GOMPERS
President, American Federation of Labor

THE affairs of the whole world are in the process of remaking. Relations between nation and nation, and between the peoples within the various nations, and among working people particularly, are undergoing a new change and a new life.

I stand in so far as I can and dare—and I dare much—for the principles of natural and rational development and growth.

I am opposed, as is organized labor of America, to any destructive policy.

There is nothing that is worth while maintaining that I would aid or abet in destroying.

Our policy, our work, our method, our ideas and our ideals are to build, to construct, to grow, to help in the development of the highest and best in the human family; to make to-day a better day than yesterday, to make to-morrow's better day than to-day, to make to-morrow and to-morrow's to-morrow each a better day than the one that has gone before. That evolutionary process of progress and improvement is the basis for the opportunity for freedom, justice and democracy.

That is the constructive policy of progress. If that policy of the American labor movement is opposed, and successfully opposed, then our work, our activities, and our movement will be sent to destruction.

If we are impotent, if we are incapable of securing for the workers improvements in their conditions, then we ought not to exist. I say for myself that if I were convinced that the American labor movement is impotent to be of service to my fellows, I would quit it and abandon the organization to its justifiable fate.

It is a question of dealing with such a movement as represented by the American trade unions—the American Federation of Labor—or dealing with a body of irresponsible or irreconcilables. If we are not on the right track, then those who represent the wildest orgy of destruction, with no consideration for the rights of individuals, will come to the front. It is a matter of choice between dealing with such elements or dealing with the constructive forces of the organized labor movement of our country.

I do not know that I am entitled to very great credit because I am not a Bolshevik. With my understanding of American institutions and American opportunities, I repeat that the man who would not be a patriot in defence of the institutions of our country would be undeserving the privilege of living in this country.

It is true that we have discussed democracy. We have used that term glibly and often without understanding. It is true that we have discussed freedom, and often without understanding. I have had the opportunity to travel in Germany. I have never heard any people so vociferously and enthusiastically sing and shout the terms of freedom and democracy as did the German people.

Freedom is not a condition, nor is democracy a condition. Freedom is the exercise, the functioning of freedom, the practise of freedom, the practise of democracy. All that society can give, all that government can give, is the opportunity of freedom. It depends upon the people to be intelligent and grow into the feeling, the exercise and practise of the function of freedom. It was because the principles of freedom and democracy were menaced by the system of autocracy and militarism that the people of our country and the peoples of other countries and of the democracies of the world rallied around their banners and declared, and made good their willingness to make the supreme sacrifice, for the principles, the institutions and the practise of freedom which were threatened to be overwhelmed and crushed.

If I thought that Bolshevism was the right road to go, that it meant freedom, justice and the principles of humane society and living conditions, I would join the Bolshevik. It is because I know that the whole scheme leads to nowhere, that it is destructive in its efforts and in its every activity, that it compels reaction and brings about a situation worse than the one it has undertaken to displace, that I oppose and fight it.

Some Notes on the Purchasing Agent's Job*

The Selection of Materials a Man-Sized Job—How to Keep Stock at Lowest Point Consistent with Production—The Problem of Deliveries—A Good Slogan for Purchasing Agents

By JOHN L. THORNE

Of Thorne, Mulholland, Howson and McPherson, Industrial Advisors, Toronto

MUCH has been said and written in regard to the factory superintendent's and the sales manager's responsibilities during the period of reconstruction, but the purchasing agent, who is expected to furnish the right materials, in the right quantities, at the right time and at the right price, has also a very important part to play.

The selection of materials for the factory is an exacting duty at any time, but during these times of unsettled markets and changing sources of supply, it is, to put it mildly, a "man-sized job." When the war ended, it was generally expected, for some unknown reason, that we could place our orders in the usual quantities and stop worrying over deliveries and substitutions, but fate did not think our hair was sufficiently grey, and decided to keep us guessing.

Where is the purchasing agent who has not heard the factory superintendent's warm comment upon certain material because it could not be as easily worked as the previous order? Or if he is in the wholesale business, how many times have his ears burned under the scathing criticism of the sales manager, because a shipment was not up to sample? These are unpleasant recollections and they are not brought forward to depress but rather to show the difficulties under which the purchasing agent is working, and more important, how to overcome them.

In the first place, as a measure of self-defence, it is absolutely necessary for the purchasing agent to secure the factory superintendent's consent to substitute, however slight it may be. An instance of this occurred a short while ago. The purchasing agent of a firm who used large quantities of paper excelsior for packing purposes could not secure exactly the same grade as he had been accustomed to buying and innocently consented to a substitution, which was highly recommended by the supply house. Within a week after the shipment was received the packing department's production had dropped off so seriously that the factory superintendent conducted a personal investigation, with the result that the excelsior was condemned as it was found that being coarser, it was twice as hard to use, and in addition was scratching the girls' hands severely.

There is also unfortunately, another class of substitution. Allowing that the order is properly specified by the purchasing agent, it is necessary to see that the goods received come up to the specifications. It is not uncommon, especially during the last four years, for mistakes to be made in filling purchase orders, and it is the purchasing agent's duty to see that such mistakes do not occur. In some plants, it is left to the foreman to report unsatisfactory material, but as the goods may be in the possession of the company some time before this is discoverd, the invoice may be paid, or the time limit on a possible claim expired; in which case, it is difficult, if not impossible, to secure redress.

The best practice in modern purchasing departments, provides for an inspector of all goods received. Instead of the receiver forwarding all the material to the storekeeper immediately, several units, that is, barrels, cases, etc., are placed aside and sampled by the head of the department which is going to use it. It will be seen at once what a valuable protection this system of inspection affords the purchasing agent. Once the receiving slip is initialled by the inspector, the responsibility of the purchasing agent ceases. On the other hand, if the inspector refuses to approve of the shipment, a full report on the cause of his rejection is given which enables the purchasing agent to make a claim on the shipper quickly and intelligently.

All our troubles are not over, however, when the goods are right. It is essential to keep a sufficient supply on hand to keep pace with production and sales. The purchasing agents of the old school used to buy in large quantities to get close prices and trust to the storekeeper notifying them when the supply ran low, but the purchasing agents of to-day could not possibly survive such free and easy methods. In the first place, material is not as plentiful as it was, and even if it were, the problem of turnover has received such close attention that unduly large stocks cannot be countenanced.

It is not hard to see that a purchasing agent who, with an average stock of $100,000, enables a company to do $500,000 of business annually, is worth considerably more than a purchasing agent who has to keep a $200,000 stock to sell the same amount as the other. Every extra dollar above the amount actually required which you turn into stock is a dollar lying idle—non-productive.

It is realized that there were and are times when it is good business to protect yourself against a rising market, but such questions should be referred to the general manager to decide upon, as it is entirely a financial policy.

As stated a few minutes ago, the turnover, that is, the number of times which a company can reinvest its working capital during a year, is a very vital factor now that competition promises to be keener than ever. To keep your

The Purchasing Agent's Slogan

The slogan of all purchasing agents might well be copied from the old railway sign, "Stop, Look and Listen;" that is to say:

STOP

generalizing and specialize. You cannot keep the total stock down to a minimum unless you control each line individually.

LOOK

at your records twice before you buy.

LISTEN

attentively to what each supply house representative says in regard to the markets for the different materials in which you are interested. Courtesy is always rewarded by knowledge.

* Summary of an address delivered by Mr. Thorne before the Purchasing Agents' Association.

stock at the lowest possible point consistent with production or sales, therefore, is one of the purchasing agent's most important duties. Methods to this end, of course, vary with the industry affected, but the plan generally adopted is based upon a perpetual inventory card for each article or material required and states in the following order: the date the purchase is made, the quantity ordered, the price paid, quantity received, quantity issued and quantity on hand. The last column, of course, is the one which determines the purchasing agent's efficiency, and to control this item it is essential to determine for each line handled a minimum and a maximum quantity to be carried. These quantities are governed by several factors, viz.: market, distance of supply house, storage facilities, etc., and cannot be determined without a careful study, but the results which are being obtained by its use more than justify the expenditure of time necessary to instal and operate such a system. To those who are opposed to clerical work of this kind, it may be said here that there are over one thousand failures due to a lack of statistics to every one over-supplied with information, and then the trouble is due to the management not knowing how to make use of the data supplied.

Never keep the factory waiting for material. It may be on the way—it may even be in the custom house—but that is not where it is wanted. Overhead is the "bogey man" to every manufacturer and trader the world over and delays are what it thrives on. Experience alone can tell a man how many chances there are for delays in his particular line, and as far as possible, they should be discounted by placing the order in time. This may seem like unnecessary advice, but the purchasing agent who has had no complaints on this score is truly a remarkable creature. It is realized that there are railroads and other worry-makers beyond his control, but the majority of cases, the open-minded purchasing agents will admit, are not incapable of solution.

A simple example is recalled by the experience of a certain purchasing agent who had considerable trouble with one of his supply houses in getting deliveries made on time regardless of when the order was placed. This purchasing agent was a keen buyer, and having driven a good bargain with the supply house in question, he was naturally loathe to change. Unfortunately, the supply house came to know of the purchasing agent's special regard for their production, and this knowledge only served to further delay matters. It appears that the supply house salesman had seen his competitors' travellers turned away without an order, time after time, and it was thought that this purchasing agent's business was secure, and it would have been, had not the factory superintendent carried the matter to the general manager. Now this purchasing agent splits every large order, wherever possible, between two or more supply houses, so that he is always sure of one.

Apart from deliveries, however, it is, generally speaking, a very dangerous practice to confine the purchase of any one line to a single supply house, if a close price is to be obtained—and what purchasing agent does not take pride in a "good buy?" The purchasing agent should give every salesman who enters his office a courteous hearing. The salesman may not have exactly what is wanted at the time, but if he is told why his line is unsuitable, he at least becomes acquainted with your needs and may be able to interest you later. One of the most successful purchasing agents in this country keeps, in addition to all the catalogues of his supply houses, a book in which is listed the particulars of all verbal quotations made to him, and by judicious handling is often able to secure terms which would otherwise be impossible.

Canadian Reconstruction Association's Activities

By Sir JOHN WILLISON
President, Canadian Reconstruction Association

WHILE Western grain growers are advocating acceptance of the Reciprocity Agreement of 1911 with the United States and free trade with Great Britain in five years, the international economic movement continues toward protection, and there is no indication that the trade agreement of 1911 is now acceptable to the United States.

Upon the return of the head of our Investigation Department from the United States, the Association issued a public statement containing the result of his tariff inquiries and emphasizing the determination of the Republican party to increase the American tariff. A special four-page leaflet was also published by the Association, summarizing Mr. Weaver's reports of proceedings at the Seventh Annual Convention of the Chambers of Commerce of the United States and the Sixth National Foreign Trade Convention. One page of the leaflet was devoted to the following summary of the high tariff movement:

The High Tariff Movement

"In the United States the Republican party has now a majority in the House of Representatives and a probable majority in the Senate, and it has always supported a high tariff.

"The United States Tariff Commission is urging the enactment of a 'bargaining tariff,' even in advance of a general revision of the tariff law.

"A higher tariff for the United States has been forecast by Chairman Fordney of the Ways and Means Committee of the next United States Congress, who will be the author of the new tariff bill. He emphasizes the importance of the home market which, in normal times, consumes between 90 and 93 per cent. of the entire production of the United States. 'I am not in favor,' he says, 'of chasing rainbows around the world to find a market for our surplus, which in amount is only about 7 per cent. of our normal production, and at the same time neglect our home market and open the bars to the flood of goods offered us, made by the cheap labor of the world to the detriment of our own laboring people.'

Public Men's Statements

"Congressman Gillett, of Massachusetts, who will be Speaker of the House of Representatives in the new United States Congress, says: 'At the earliest opportunity there should be passed by the Republicans of the House a protective tariff measure which will provide more abundant revenue and prevent an inundation of foreign goods produced by cheaper labor.'

"Senator Primrose, who will be Chairman of the Finance-Tariff Committee in the new United States Senate, said in a speech before the Manufacturers' Club of Philadelphia: 'Once again we must take up the task, under new and unprecedented conditions, of framing a protective schedule which will provide adequate protection for American capital and labor and secure the industrial independence of the United States. We must prepare for it not, as heretofore, against foreign competition from nations which were either free trade or largely

had merely a protective tariff, but as against industries of nations aided in every conceivable way by government subvention, subsidies, contracts, regulations, and tariffs. In other words, a protective tariff system is more vitally necessary to the United States in the immediate future than ever before in its history. Without its proper enactment, distress and perhaps ruin, will stare our people in the face.'

"Mr. Wm. S. Culbertson, of the United States Tariff Commission, believes there will be a tariff revision upwards after the next presidential election. He is interested in closer trade relations with Canada, but declares they cannot be established on the basis of the Reciprocity Agreement. While technically the offer is still open, he contends that the United States is not under any moral obligation. 'We cannot sacrifice the interests of our Middle West in favor of the Canadian West. Any reciprocity agreement must rather take the form of concessions in non-agricultural products.'

"Mr. Frank Lyon Polk, counsellor for the Department of State, says that the Reciprocity Agreement would have to be reviewed by both Governments before any action could be taken to put it into force.

"In a special article in the *Manitoba Free Press*, Mr. J. A. Aiken, writing from Washington, says: 'The reciprocity pact of 1911 is regarded as obsolete, and not to be considered as going into force by consent from Ottawa.'"

Poster Advertising Campaign

Plans are now well advanced for the Association's extensive poster advertising campaign for development of the home market and domestic purchase of "Made in Canada" products. In connection with this campaign, the Association has also nearly completed arrangements for the publication and circulation of small illustrated cards suitable for insertion in envelopes. The cards are especially designed for employees, and each one makes some particular appeal for development of the home market. Among such appeals are the following:

Buy "Made in Canada" goods, build up our industries, and thus encourage final process of manufacture in Canada. In 1918 Canada exported unfinished products to the value of more than $900,000,000. If the manufacturing processes of even one-third of these had been completed in Canada, employment would have been given to at least 125,000 more workpeople, close to $125,000,000 would have been provided for additional wages and salaries, and the net value of Canadian products would have been increased by approximately $275,000,000.

To meet its great war debt and reconstruction obligations, Canada must increase production, build up the home market, and develop export trade.

Buy Goods at Home

The Canadian Trade Commission says: "For every million dollars retained in Canada by a refusal to buy other than Canadian goods, a year's continuous employment can be given to at least 1,000 people."

When we buy goods abroad we get the goods and the foreigner gets the money. When we buy goods made at home we get both the goods and the money.

The home market is the best market. Its development means busy factories and prosperous farms. Purchase of Canadian products is a national obligation during the reconstruction period.

The Canadian Reconstruction Association appeals for greater production in field and factory. Every acre seeded is increased wealth for the Dominion. Every active factory is an asset to the state. Buy Canadian products, develop the home market, and pile up prosperity by using "Made in Canada" goods.

No goods purchased abroad are cheap that take the place of our own labor and our own raw material. Spend your money at home and help yourself and your country.

By supporting home industries you develop the home market, encourage export trade, and reduce imports. Every dollar spent for goods produced by Canadian labor means better conditions for Canadian workers.

Canada needs your help now. Over 2,000,000 Canadian men, women, and children are directly dependent on the support you give to Canadian manufacturing industries by buying the products of Canadian labor.

Loss in Wages to Workmen

Every dollar spent on foreign goods represents loss in work and wages to Canadian workingmen. Every dollar spent at home improves the domestic market for manufactured and domestic products and stimulates national development.

In 1918 Canadian imports totalled $906,954,900. If half this money had been spent on Canadian products, it would have given employment to an additional 100,000 workmen, with an increased payroll of nearly $100,000,000.

Build up the home market. The president of the Bank of Commerce says: "Every dollar's worth we buy abroad means that a dollar's worth of work has been diverted from a Canadian workman." Make your money support home industries.

Appointed European Manager

Former Secretary of Montreal Branch to Represent Shawinigan Falls Industries in Europe

An important development in Canadian export trade is forecast by the appointment of H. T. Meldrum, former secretary of the Montreal Branch, C.M.A., to be European manager of the Shawinigan Water & Power Co., with headquarters in London, England. Mr. Meldrum will look after the export activities of the Shawinigan Co.'s industrial subsidiaries—the Canada Carbide Co., the Canadian Electro Products Co., and the Shawinigan Electro Metals Co. The production of these companies was greatly stimulated by the war and the managements are now looking to the export field for the absorption of a good portion of their output. Mr. Meldrum sails for England on June 17th.

Big Industry for Hamilton

Canadian Branch of Porritts & Spencer, Bury, England, to be Located at this Point

An important addition to Hamilton's list of industries was announced towards the end of May. Porritts & Spencer, Bury, England, the largest manufacturers of commercial felt in Great Britain, will establish a plant in Hamilton for the manufacture of felts for paper-making machines and woollen blankets. The name of the Canadian company has not yet been decided upon, but it will probably be the Canadian Porritts-Spencer Company, and it will be incorporated at not less than $1,000,000.

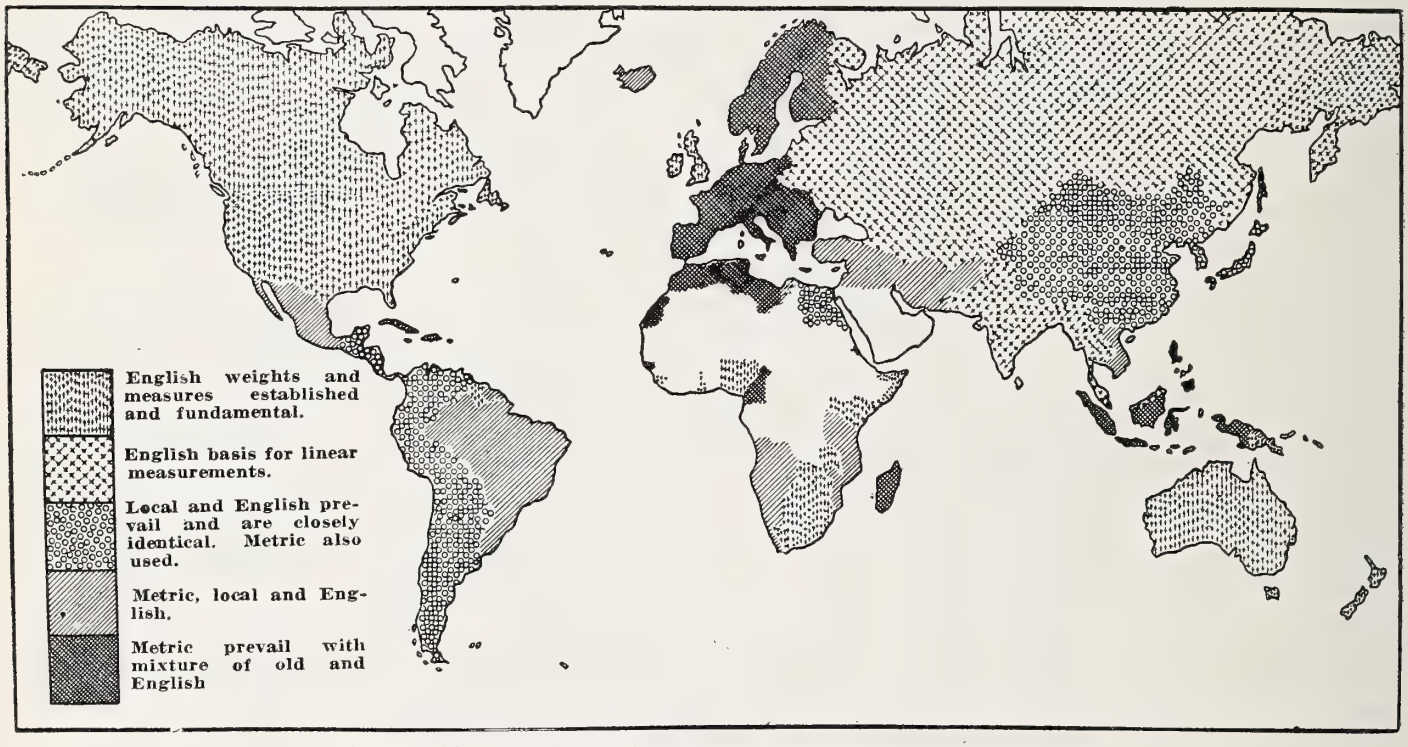
Property has been purchased on Lottridge Street, with frontage of 550 feet and depth of 675 feet. It contains seven and one-half acres and is considered one of the finest industrial sites in Hamilton. The intention is to erect an administration building 80 x 75 feet, four storeys high, and a factory building 100 x 1,000 feet and of saw-tooth roof construction. At the outset 500 hands will be employed.

Besides being the Canadian headquarters, it is the intention to use the Hamilton plant for the handling of export trade. The company does an extensive export business with Japan, which will be taken care of from Hamilton.

Use of the Metric System in Export Trade

From Shovels to Watches and from Wheelbarrows to Automobiles, the Units of Measure to which Goods are Made have Nothing to do with their Saleability in Any Market—An Examination into the Weights and Measures in Use in Latin America Shows that the Metric System is not Generally Employed

By FREDERICK A. HALSEY
Commissioner, American Institute of Weights and Measures



The World's Weights and Measures showing the Commanding Position of the English System

THE problem of the adoption of the metric system does not lie in the introduction of the metric units, but in getting rid of the English units. If the English units are to continue in use, we will have a double standard with infinite complexity and confusion due to their conjoint use. Most of the advocates of the system will not recognize this fact, but it so happens that their favorite authors, Professors Hallock & Wade, in their book The Evolution of Weights and Measures and The Metric System, have presented it in the following very clear language:

"We are forced to consider a still more serious difficulty, namely, the growth of a dual system, due to the increased use of the metric system as permitted by statute . . . Both systems being legal and the metric measures coming into more widespread use, there would result the perpetual necessity of converting from one to the other in commercial transactions, and while the nation was waiting for the ultimate survival of the fittest system, or the birth of an ideal scheme, incalculable inconvenience and damage would ensue, as has been shown many times in the past."

Investigations of the usage of weights and measures throughout the world have been in progress for nearly twenty years, those given in abstract below being but a portion of the whole. The accompanying map by Mr. S. S. Dale is a graphic summary of all of these investigations which have reached into every country of any commercial or industrial importance on the face of the earth.

Since the outbreak of the world war, we have heard repeated insistence that we must adopt the metric system if we are to succeed in the cultivation of foreign markets. We are told that when selling to others, "we must deal with them in language they understand." We are told that "our weights and measures are meaningless to them," that "they have forgotten their old units," that, in short, "in export trade, we have no choice . . we must come to the metric system."

Facts Regarding Export Trade

Like other metric arguments, there is a specious plausibility about these statements, but instead of relying upon generalities, let us consider the sale of specific commodities.

In normal times, we import large numbers of high-class French clocks, and, similarly, we export tens of thousands of cheap clocks to all parts of the world. It would be absurd for an American purchaser to object to a French clock because it was made to the metric system, and equally absurd to suppose that foreign purchasers would object to our clocks because they are made to the English system. To come still nearer home. American watches are made to both the English and the metric systems, but not one watch owner in a thousand knows or cares to which system his watch was made. You, gentle reader, do not know and never gave the matter a thought. As another illustration, it is not conceivable that a foreign purchaser should fail to select an Ameri-

can typewriter because its parts are made to the English system.

Still another illustration is found in the automobile trade. In former days when the French led in automobile construction, large numbers of French automobiles were sold in this country, but no one ever heard raised as an objection against them the fact that they were made to metric measure. At the present time, the situation is reversed, American automobiles have taken possession of the markets of the world, and the fact that they are made to English measures is nowhere raised against them.

It is precisely so with every other commodity that can be named. From shovels to watches, and from wheelbarrows to automobiles, the units of measure to which goods are made have nothing to do with their saleability in any market.

In the broader view, in normal times we import vast quantities of goods from metric countries which we buy without thought or question of the units of measurement to which they are made. Just as metric countries give no thought to the adoption of the English system in order to sell goods to us, so there is no reason why we should consider adopting the metric system in order to sell goods to them.

I do not, however, ask you to take my word for this.

Investigation of Experience

In no case is any proof given of these assertions, and, it seemed to me, that the proper and natural preliminary to a decision in such an important matter lay in gathering together the experience of manufacturers who are engaged in export trade. I, therefore, prepared a questionnaire in which three leading questions were asked relating, respectively, to the extent of use of the metric system in manufacture, in commerce, and in literature and correspondence for and with countries which are commonly called metric. Over 6,000 of these questionnaires were sent out to exporting manufacturers from whom 1,445 replies were received. In addition to the leading questions, the questionnaire also asked each recipient to give the length of time in which he had been engaged in export trade. An answer to this question involved a searching of records which many were unwilling to make. Of those, who did reply, there were 284 who have been engaged in export trade from ten to twenty years, 225 from twenty to forty years, 48 from forty to sixty years, and 10 from sixty to one hundred years and more—three having been engaged in export trade for more than a century, and one of them for 135 years without finding any occasion for the adoption of the metric system for the benefit of export trade.

Results of the Investigation

In addition to the categorical replies to the questions asked, many returns included in footnotes or accompanying letters remarks regarding their experience. My report on this inquiry includes over 200 extracts from such remarks, and of these I give below a few:

The American Printing Company (textiles) write:

"We have equipped some of our cloth-folding machines to record meters instead of yards, so that we can meet requirements for lengths in meters, but practically all our goods for export are measured in yards."

The American Stove Company (stoves, in export trade "many" years) write:

"As to factory methods of measurement, we have made no change whatever in order to adapt our goods for export. All of our goods are made to English standards of measurement."

F. W. Brode & Co. (cotton seed products, in export trade "many" years) reply that they make no use of the metric system, and add:

"And our exports the past season were approximately $1,000,000."

The Bristol Patent Leather Company (in export trade 12 years) write:

"The largest leather producing countries use the square foot as their basis. Therefore, the square foot is a familiar unit even in countries using the metric system."

The Collins Company (edge tools, in export trade 70 years) write:

"Our business is nine-tenths with foreign countries. We have no need whatever to use the metric system in our business."

The Cudahy Packing Company (packing-house products, in export trade 30 years) write:

"We do an export business amounting to many million dollars per annum, but have not found it necessary to mark our goods with anything but the usual English weights."

The Cadillac Motor Car Company write:

"We have been shipping automobiles abroad for 15 years and have never had the question of metric measurements raised by any of our customers abroad."

The Brown Folding Machine Company (paper folding machinery, in export trade 20 years) write:

"We cannot recall any instance where we have been asked to give anything but United States standard weights and measures."

The Benjamin Eastwood Company (textile machinery) write:

"There is no call for the metric system of weights and measures in building textile machinery for export. We have had many inquiries and cannot remember a single instance where the inquiry has specified that the machinery must be built under the metric system."

Eastman, Gardiner & Company (building lumber, in export trade 12 years) write:

"After the meeting of the National Foreign Trade Council last year, during which meeting the matter of the metric system for foreign business was brought up, we took the matter up with our foreign agents in France, Belgium, Germany, Italy, and England, and asked them if there would be any advantage in our adopting the metric system in figuring lumber. They stated that although the metric system was used in some of the above countries, that in lumber, the buyers were so accustomed to using the English measure that it would be a great mistake to make any change in our method of figuring."

This letter confirms information already in my possession. Lumber is everywhere sawn to the inch. Metric lumber is not to be found in the markets of the world. If the metric system is so much "better," why has it made no impression on the great lumber industry?

Fairbanks, Morse & Company write:

"We have been actively engaged in developing foreign trade for the past fifteen years and our experience touches practically every country in the world. The lines of goods that we manufacture and sell abroad are quite varied, embracing internal combustion engines, steam, power and centrifugal pumps, electrical dynamos, and motors, railway supplies and windmills. We are, of course, sending our goods to countries where the metric system is used, but we have not seen any necessity whatever for abandoning the English standard of weights and measures."

The R. P. Hazzard Company (men's shoes, in export trade 10 years) write:

"We have never had called to our attention any metric system for designating sizes of boots and shoes."

The Independent Pneumatic Tool Company (portable pneumatic tools, in export trade 24 years) write:

"We have never used the metric system, nor have we been asked to do so."

The Lauderdale Cotton Mills (colored cotton goods, in export trade 4 years), say that they make no use of the metric system, and add:

"Our entire output is being exported."

The Penn Engineering Company (steam and water specialties, in export trade 18 years) write:

"We have never used anything except English measures, nor found any need to change at any time."

William Sellers & Company (machine tools and power transmission machinery, in export trade 60 years) write:

"Notwithstanding the large volume of foreign inquiry we receive, so little of it calls for adherence to the metric system as to be practically negligible."

The Southern States Lumber Company (long leaf yellow pine lumber, in export trade 19 years) write:

"Up to eighteen or twenty years ago, our French buyers required their flooring boards to be measured in metrical feet of 13⅛ English inches, but, since then, English measures have prevailed in that market."

The Standard Sanitary Mfg. Co. (plumbing fixtures, in export trade 20 years) write:

"Our trade is using English dimensions more and more. Requisitions are now seldom written up in the metric system."

The Wheeler-Schebler Carburetor Company write:

"We have had no occasion to use the metric system in the manufacture of our products."

The Walter A. Wood Mowing and Reaping Machine Company, who reply that they make no use of the metric system, add:

"We do a large export trade in Scandinavia, France, Germany, Russia, Austria-Hungary and Roumania."

This inquiry has disclosed 600 industries, every one of which exports goods to metric countries, and not one of which makes any use of the metric system in the productnon of its goods. When I say *industries*, I do not mean manufacturers, since many of these industries are represented by more than one manufacturer, automobiles and automobile trucks being represented by 22 manufacturers, agricultural implements by 18, agricultural and harvesting machinery by 19, boots and shoes by 21, cutting tools by 14, chemicals by 19, electric generators and motors by 14, food products by 24, ice and refrigerating machinery by 4, lumber by 19, leather by 14, machine tools by 60, pumps by 19, paper by 13, petroleum products by 7, power transmission machinery by 8, paints, oils and varnishes by 13, printing presses and other printing machinery by 6, rubber goods by 11, steel and iron products by 31, steam boilers by 11, steam engines by 14, oil mill machinery by 5, textiles by 13, textile machinery by 9, wood-working machinery by 8, wagons by 6, and so on.

Extent of Use of Metric System in Export Trade

Of the 1,445 exporters to metric countries who answered this questionnaire, 82 per cent. make no use of the metric system in the production of their goods, 15 per cent. make some use of it, and 3 per cent. ignore the question. The extent of use of the 15 per cent. who report that they do use it is indicated by the following extracts from their letters. While we have 22 makers of automobiles and automobile trucks who make no use of the system, the Paige-Detroit Motor Car Company say:

"At the present time the demand for metric wheels, rims and tires is extremely limited. Since the first of the year, we have only shipped six cars so equipped. Occasionally, we get a request that the spark plug be metric, with which request we comply. This is practically obsolete at the present time, owing to the predominance of American spark plugs, and we have not made shipment of a single car so equipped for over 18 months."

The Hoover Steel Ball Company say:

"We do not have a very large call for the metric sizes, and presume this would not amount to more than five per cent. of our entire export orders."

The Anchor Saw Mills Co., who make boat oars, and who have been in export trade 60 years say:

"It is very rarely that boat oars are ordered by the metric system, as the English foot is used as the unit of length all over the world."

The Modern Tool Co., who have been in export trade 14 years, say:

"According to our records about ten per cent. of the tools supplied to metric countries are required in millimeter dimensions."

A. G. Spalding & Brothers, makers of athletic goods, who have been in export trade 20 years, say:

"We have one or two pieces of apparatus used in physical measurement which we are requested, although very seldom, to make specially to the metric system."

The Abrasive Company, who make grinding wheels, and who have been in export trade 17 years, say:

"The grinding wheels that we supply to countries using metric measure are according to English and metric measures. It would be difficult to give an approximate idea of the percentage of the two kinds of measurements used, but perhaps we would not be far wrong in specifying 3 per cent. metric and 97 per cent. English."

The Avalon Knitwear Company, who make knit goods, say:

"We only use the metric system in our dye house and only to a very limited extent."

The reader will not fail to observe the large importance to the customer of the units of measure used in a dye house.

Baker Brothers, who make keeway cutting tools and who have been in export trade twenty years, say:

"We furnish some cutting tools in metric widths for keyseats, but the majority are furnished in English measurements even for metric countries."

The Landis Tool Company, who make cylindrical grinding machines and who have been in export trade for twenty years, say:

"Not over 5 per cent. of our foreign customers require metric measures."

The Dods Manufacturing Company, who make power transmission machinery and who have been in export trade twenty-five years, say:

"Probably 99 per cent. of our export production is made on English measurements and weights, that is, inches, feet and pounds."

The Electric Hose and Rubber Company, who have been in export trade twelve years, say:

"We ship goods to metric countries made in both English and millimeter sizes, about two per cent. of which are made to millimeters and the balance to English sizes."

The Manhattan Rubber Mfg. Co., who have been in export trade twenty years, say:

"In not more than twenty cases in a year's time goods are ordered from us with the dimensions specified in the metric system."

The Bowen Manufacturing Co., who make shackle bolts and automobile accessories, and who have been in export trade twenty-two years, say:

"On one occasion we had to make a lot of spring shackle bolts having a metric thread at one end."

The Joubert & Goslin Machine and Foundry Company, who make sugar machinery and who have been engaged in export trade for twelve years, say:

"The only time that we are called upon to follow metric dimensions is where we furnish some repair part or make some addition to a machine built in Europe."

The Standard Varnish Works (varnishes, etc., in export trade forty years) write:

"We had one instance several years ago where we had to report dimensions of packages in centimeters, but that is all."

The Addressograph Company (addressing machines, in export trade twelve years) write:

"Only one request for goods to be marked in the metric system in the past twelve years."

Libby, McNeill & Libby (packing house products, in export trade forty years) write:

"About the only business which we have ever done which required special metric packing was occasional French Government business."

The Weights and Measures of Latin America

This assumption that we must adopt the metric system in order to sell goods abroad is based upon another assumption—that, except in the United States, the British Empire and Russia, the system is in universal use. The argument

has special reference to Latin America, which we are assured is wholly metric.

Again it has seemed to me better to learn the facts than to assume them. For about two years past, I have been engaged in an investigation of the weights and measures of Latin America through a questionnaire distributed throughout South and Central America and the West Indies. In order to secure representative and impartial distribution, outside agencies were enlisted in the work, the printed blanks being sent to their branches and correspondents by the National City Bank, the United Fruit Company, W. R. Grace & Company, and the Hill Publishing Company. Additional copies were sent out from my office to names taken from a commercial list obtained from the United Fruit Company and to United States Consuls.

This questionnaire went into all ordinary applications of weight and measure, from the grocery trade to shipping and navigation, and the replies to it cover every country in Latin America except Paraguay and Bolivia. From this, and from other sources, I have had satisfactory information from the metric system be said to be adopted for domestic purchases and sales, while from Uruguay I have such expressions as these:

Lumber and timber: "Officially the meter, customarily per thousand feet."
By carpenters and other woodworkers: "English foot and inch generally used."
In machine shops: "Officially the meter and sub multiples, practically, following the custom, the English inch."
Sizes of pipe for gas, water, sewers, etc.: "Officially the meter, practically the pulgada." (Pulgada is the Spanish name for inch.)
Marine measurements: "Officially the kilometer, to a large extent the marine mile."
"In practice there is no effort to abolish completely the English measures."

In addition to the above, because Uruguay set out to really enforce their metric laws they found them unforceable in units for the measurement of real estate, and they have been obliged to pass a supplementary law authorizing the use of the old Spanish units for this purpose. In other Spanish-American countries where the laws are, nominally, equally drastic but not rigidly enforced, they are, in this application, quietly ignored.

In no other country can the metric system by any stretch of the imagination be said to be adopted even for domestic purchases and sales, but nevertheless in twelve of these twenty countries and the facts that I shall give are as little subject to doubt as is the multiplication table. A detailed report of this inquiry has been published by the American Society of Mechanical Engineers, and I here give an abstract of the results of the investigation.

In but one of the countries investigated (Uruguay) can twenty countries, according to the Director of the Bureau of Standards, the metric system is "obligatory."

In ten of these countries (apart from the railroads and other fields under immediate government control) the metric system has made almost no impression. (Nicaragua, Guatemala, Spanish Honduras, Cuba, Panama, Colombia, Porto Rico, San Salvador, Ecuador and Costa Rica.)

Of these ten countries, according to the Director of the Bureau of Standards, the metric system is "obligatory" in seven. In five of them (Cuba, Colombia, Porto Rico, Panama and Spanish Honduras) the English units are used far more than the metric, having largely supplanted all others, although in three of them, according to the Director of the Bureau of Standards, the metric system is "obligatory." Not only has the English pound come into large use, but the arroba and quintal have been adjusted in value to make them equal to 25 and 100 English pounds respectively. In substantially all of the countries investigated, the English inch is used for mechanical purposes, as the English nautical units are used for navigation and sea shipments. That most derided of English units—the nautical mile—is used by all countries that sail the seas and they use no other. The kilometer is an unknown measure at sea.

In all countries the impression made is in direct relation to the severity of the laws, of which we have the climax in Uruguay, with Venezuela and Argentina not far behind. In all cases the movement was begun with mild laws under the impression that the adoption of the system was a simple and easy thing to bring about. Such laws failing, more drastic ones followed, but even these have been but partially effective. The greatest progress has been made in the field of domestic retail trade in which weights and measures are under the immediate eye of officers of the law.

Reports of Tourists

It is this field which comes under the observation of tourists. One may tour through, or, for that matter, live in a country for many years, in many walks of life, without coming in contact with weights and measures outside the field of retail trade, and we thus see why the reports of tourists are more favorable to the metric system than the facts justify, as we also see why the observations of tourists, in a comprehensiveness, have very limited value.

The further we get from the field of retail trade, the less is the system used. In this field the progress is chiefly with units of weight and capacity, the measure of length for the sale of dry goods being commonly the vara (the Spanish yard), while imported wearing apparel of all kinds is commonly sold by the units of the country of its origin, and by the inch at least as much as the centimeter, and domestic products are frequently made to numbered sizes, of which the relation to any system of units is not apparent. They are not metric.

In primary or wholesale markets the old measures prevail, although these, in some cases, have been adjusted in value to make them even multiples of English basic units. We have here perfect examples of the simple process of unification of English and Spanish measures which, with proper encouragement, might by this time have become substantially universal.

Lumber and timber are almost universally sawn to the inch, although frequently mixed with the vara or the meter for length, and the square and cubic meter as sales units, prices being made at so much per square or cubic meter for one inch boards. This is called "using the metric system."

In the mechanical trades, the tailors and seamstresses use all three systems, as do stone and brick masons, while carpenters commonly use the pulgada or inch. In machine shops, both English and metric units are used, depending chiefly on the country of origin of the machines they have to repair. The inch is predominant.

Some Actual Experiences

In this connection we have the report of The Cleveland Twist Drill Company that shipments of their tools to South America are "95 per cent. to 100 per cent. English," and of the Detroit Twist Drill Company that "All of our South American customers use more English sizes than metric." Needless to say, English sized twist drills are bought in order to make English sized holes for they will make no other.

In ship and boat building, also, the English units find large use, while in mining and smelting we find a miscellaneous mixture of all three systems. The persistence of old units is most pronounced in the measurement of land. When units of measure are once anchored in titles to real estate, they are there to stay. Of this, we have perfect examples in the use of the French arpent in Louisana and the Spanish vara

(*Continued on page* 89).

AMONG THE INDUSTRIES

Under this heading are published items of news of current interest concerning the activities of Canadian manufacturers. Information about changes of interest, enlargement of plants, and plans for future developments are welcome, and are published free of charge, provided they should not be properly classified as advertisements

*** Items prefixed with an asterisk are based on official information received in each case from the companies mentioned. Other items, while secured usually from reliable sources, have not the same authoritative origin**

ALBERTA

Edmonton.—W. C. Caton, G. H. Way, and R. Blackerby have installed a complete new equipment for electro-plating in the city at 10154 102nd Street. W. C. Caton, B.Sc., formerly with the city engineering department of the city, and now with the Bulletin Co., Ltd., has financed this new enterprise.

BRITISH COLUMBIA

Clayoquot.—The Clayoquot Cold Storage and Canning Co. is building a plant at Clayoquot, which is to include cold storage and canning equipment, involving an expenditure of $150,000.

Falkland.—The B.C. Gypsum Co. is planning to erect a plaster mill here.

Nelson.—The McDonald Jam Co. are erecting a two-story cement and granite jam and candy factory, 100 x 120 feet in size and with 22,000 square feet floor space. The plant will be equipped with up-to-date machinery, and it is expected that a million pounds of fruit will be handled this season.

Port Hammond.—Residents of Port Hammond, B.C., are justly proud of the war record of the sawmill located there. This mill turned out more lumber for use in aeroplane construction than any other mill in British Columbia, and in this instance that means the whole Dominion. The mill company have a letter on file which proves the statement, and congratulates the management on the enviable position thus won. When labor was scarce the mill owners made attractive offers in order to secure female help, and at one time eight patriotic young ladies were engaged in jobs that are generally looked on as men's work. Records show that they did these jobs as well as men could have done them.

New Westminster.—The British Columbia Manufacturing Co. has obtained a permit to erect a new export plant at Queensborough.

Prince Rupert.—The plant of the Prince Rupert Lumber Co. has been leased to the Prince Rupert Mills Co., Ltd., which concern has just been organized. It is composed of Vancouver lumbermen under the able management of A. A. Ewart, who is a competent and experienced lumberman. The Prince Rupert Spruce Mills Co. started operations early last month on a commercial basis. The past operations by the retiring company under Mr. Duby, have been under contract with the Imperial Munitions Board for supplying airplane spruce.

Vancouver.—The Hyatt Steel Products Company has reopened the rolling mill at Port Moody and has made several improvements to the building and plant acquired by them from the Tudhope Electric Metals Co. at False Creek. The company is also increasing and improving its steel plant on Industrial Island.

The Beaver River Lumber Company has commenced work on the reconstruction of its mill and plant near Jackman, on the County Line Road, which was destroyed by fire early in April. Both the sawmill and shingle mill, which were destroyed at a loss of $75,000, will be rebuilt.

The Dominion Canners' Association is absorbing a number of the British Columbia fruit canneries, these including the Vantoria Canning Company, the Kelowna Packing Company and Food Products, Limited. This amalgamation now includes over fifty per cent. of the fruit and vegetable canning enterprises of the Province, and the new company, which has its own charter, will be operated independently of the eastern plants of the company.

The Morrison Steel & Iron Works has taken out a permit for a new factory on Industrial Island. The building, which is to be of mill construction and sheet iron, is to cost $28,500.

Vernon.—The Vernon branch of the Graham Evaporating Co., Bellevile, Ont., which closed down early in April, paid, during the past season, over $127,000 for potatoes to the farmers of the Okanagan district. During the season $70,000 was paid in wages by the company, which shipped nearly two million pounds of desiccated potatoes, which were purchased by the American Government for its overseas army.

NEW BRUNSWICK

St. John.—It is expected that before long an adjustment of the shell contracts which the McAvity Company were engaged in at their Marsh Road plant will be reached, so that the firm will be free to develop the plans which they have in view for these immense works. In the meantime the new steel foundry in the rear of the munition factory is being completed and made ready for work. The firm are also carrying on their general foundry manufacturing business in their Broad street and Water street plants, turning out brass material of various kinds and material for ships, railway and mining purposes. It is intended that before long all the city plants of this enterprising firm will be assembled in their Marsh road buildings.

The advantages of St. John as a food distributing point for the Maritime Provinces and overseas is shown by the fact that the Swift Canadian Co., Ltd., and the Armour Company have both acquired properties on the railway line and propose establishing large meat storage depots at an early date. In addition to these operations, Gunns, Ltd., under the management of Mr. J. A. Kennedy, have for a number of years carried on a successful and growing business at this port. More recently, the Harris Abattoir Company have established themselves here. Further development along this line is talked of.

The Canadian Cottons, Ltd., who have a large plant at Milltown, N.B., are planning a diversion of the St. Croix river at that point and the establishment of a large power station. The Company's plans will involve an expenditure of over half a million dollars. The Canadian Cottons, Ltd., have two large mills at St. John, the York and Cornwall. These have been very busy throughout the war and are still doing a large business.

NOVA SCOTIA

Glace Bay.—The Dominion Coal Co. is erecting a turbo compressor at its Springhill Mine in Cumberland County. The plant was ordered in the early part of 1915 but, owing to war orders, it was not delivered until the end of 1918. The compressor is turbine-driven and is of nine thousand cubic feet capacity. It is a mixed pressure type, but will be largely operated by exhaust steam. Condensers and cooling arrangements form a part of the installation. The air will be used for pumpnig, haulage and other classes of work in the mine and in particular will replace steam at large pumps that have been installed for many years.

ONTARIO

Arnprior.—Kenwood Mills Ltd., have awarded a contract for the construction of a large fire-proof wool room.

Blind River.—McFadden & Malloy, of Spragge, Ont., have purchased the mills, stock and timber concessions of Eddy Bros. & Company, Blind River, Ont. This important deal, which was recently concluded, gives McFadden & Malloy a cutting capacity of about 300,000 feet a day. The plant of Eddy Bros. & Company, whose headquarters are at Bay City, Mich., has been established in Ontario for some fifteen years, and is erected on the Soo branch of the C.P.R., about sixteen miles west of Spragge, where McFadden & Malloy's mill is situated. The capacity of the Eddy plant is 125,000 feet a day, and the equipment consists of two band saws, a gang saw and a gang edger, together with the usual accessories.

Chatham.—The Hayes Wheel Co., which was engaged in the manufacture of munitions during the war, is now producing auto axles, parts of which have not been made in Canada before. The company will deliver the axles to the various automobile companies in Canada.

Cobalt.—The sampling plant of Campbell & Devell, has been taken over by the government and is henceforth to be known as the Timiskaming Laboratories.

Cobourg.—Contract has been awarded for the construction of a brick and cement factory here for the Douglas Packing Co., Rochester.

Elmira.—A new warehouse and addition to factory buildings for the Great West Felt Co., Limited, will be erected shortly.

Goderich.—Announcement has been made of the formation of the Huron Steel Corporation with a capital of $15,000,000, to engage in the manufacture of automobiles, trucks, and parts. The building of a hydro power line to furnish 25,000 h.p. for use at the plant and the enlarging and deepening of the harbor are among the improvements aimed at in connection with the establishment of the industry.

Guelph.—Contract has been let by the Northern Rubber Co. for the erection of a building costing $100,000.

A building permit has been issued to the Carpet and Worsted Spinning Mills for erection of a new mill and dye house, at a cost of $35,000.

Hensall.—The Jackson Mfg. Co., of Clinton, have decided to erect a plant here.

Hamilton.—Zimmerman-Reliance Limited have completed a third story, 450 feet long by 63 feet wide, over the whole of their plant here. The extension has been erected to take care of the hosiery department which is developing very rapidly. The company have also included a recreation and welfare room for employees, eighty feet square, and they anticipate that it will be one of the finest rooms of its kind in Canada when completed.

Mercury Mills, Limited, are extending their main mill about 125 feet, using the same type of construction, reinforced concrete, as in the present building.

Extensions costing about $35,000 are being made by Wagstaffe, Limited. These include putting part of the second story on and adding new boiler and stoker. The latter are for the

candied peel department, a new industry for this country, since Canada has always been supplied previous to the war by English manufacturers.

Plans for the erection of a new modern two-story factory for the National Paper Goods Company, are being prepared by the architect, F. W. Warren. The site will be next to the site recently secured by the Hoover Suction Sweeper Company.

J. B. Nicholson Co. is erecting a new factory and the Nukol Fuel Co., Limited, plans a new plant.

Harrow.—Quality Canners, Limited, will erect a factory here at a cost of about $12,000.

Hastings.—The Hastings Tannery, owned by the Breithaupt Leather Co., of Kitchener, which was destroyed by fire in October, 1917, will probably be reopened in July. It has been rebuilt at an expense of $200,000. The new building is in the same site as that of the former plant. The main building, a two and a half story erection, built of concrete block, covers 205 by 130 feet and is alone valued at $50,000. On the lower floor 120 to 150 vats are being speedily installed, and when completed will have a capacity for tanning 400 sides a day, making the output the second largest in the province. The product of the factory, oak sole leather, will be distributed from Kitchener. In the upper part of the building, in a room measuring 150 by 130 feet, the drying by artificial means will be carried on. In all the buildings will number six, each built of concrete.

Ingersoll.—A by-law will be submitted to the ratepayers granting a loan of $18,000 to the Royal Broom Co.

London.—A plant costing half a million dollars will be erected here by the Republic Motor Truck Co.

An addition to their shoe factory will be made by the Scott, Chamberlain Co., Richmond and Bathurst Sts.

Oshawa.—The Ontario Steel Products Co., Ltd., will erect a factory, 80 x 315 feet, in Oshawa, Ont., and will employ 70 to 100 men from the start.

Otterville.—The foundation is being laid for a large shoe factory on Main street of this town, for the Tred Rite Shoe Company, which has succeeded the G. L. Williams Co., lately burned out. The building will be cement, one story high and near the railroad. A number of the best farmers in the township are taking an active and financial interest in the company.

Peterboro.—The city council last month passed a by-law to authorize entering into an agreement with the Stickney Motors Limited, St. Paul, Minn., under which the company agrees to take over the old cordage works recently vacated by the Renfrew Mfg. Co., and manufacture farm tractors, motor trucks and gasoline engines employing for nine months each year for ten years, a minimum of 50 employees. Tax exemption will be granted by the city.

Port Arthur.—On May 5, the Port Arthur Shipbuilding Co., Limited, launched the steamer, "Canadian Trader," one of the Canadian government's merchant marine fleet. She is a full canal-sized ocean freighter of 3,400 d.w. tons, steel, screw, single deck type, with a straight stem and semi-elliptical stern, built on the transverse system with poop, bridge and forecastle. She has a length of 260 feet over all.

Port Hope.—A plant to manufacture in Canada the famous Hauck oil burners has been established by the Canadian Hauck Burner Co., Limited. These burners are used by many of the most progressive concerns in the Dominion, who have recognized the great advantages of oil over all fuels.

Port Colborne.—Work on the Canada Cement Company's potash plant is progressing satisfactorily.

St. Mary's.—The St. Mary's Flax Co. contemplate purchasing a site and erecting a factory.

St. Thomas.—Stock is being subscribed locally to further the establishment here of the Provincial Machine Co., which will manufacture talking machines and talking machine parts, and there is every prospect of the plant being established shortly. No details are as yet available regarding the size of the plant.

Nursery Shoe Co., Limited, Mondamin St., plans erection of a $12,000 addition to factory.

Sarnia.—Ferguson & McCutchen are converting the northern section of the old woollen mills building, Front street, into a cold storage plant.

The Romeo Foundry Co., Port Huron, will erect a $50,000 foundry here.

Stratford.—Contracts have been let for the construction of an addition to the plant of the R. M. Ballantyne Co., the work to be completed in September. The cost will be about $30,000.

Toronto.—The Toronto Butchers' Supply Co., 61 Ossington avenue, will erect a plant.

Puddy Bros., Limited, will make an addition to their abattoir.

A new story is being added to the Glidden Varnish Company's largest building, which will give the company double its present grinding capacity. The enlargement has been rendered absolutely necessary by largely increased business.

Announcement that Dodge Bros., Detroit, were aobut to erect a factory in Canada for the manufacture of the Dodge line of automobiles is premature. The company have had the erection of a plant in Canada under consideration for some time, but with the present unsettled state of affairs, there is no knowing when a final decision will be reached.

Plans are in progress for an addition to the factory of William Wrigley, Jr., Carlaw Ave.

The Cowan Co., Limited, 72 Sterling Road, will make an addition to their factory.

Walkerton.—The Canadian Spool & Ribbon Co. wil lerect an addition to their plant at a cost of $10,000. Ratepayers voted favorably on a by-law extending assistance.

Weston.—The K. & S. Canadian Tire & Rubber Co., Limited, intend to double the capacity of their present factory by the addition of an extension which will be used principally for doing special molded rubber work. The company manufacture a complete line of druggist's rubber sundries and hard rubber fittings and do a nice business in special orders for firms requiring special molded work.

Windsor.—The Champion Spark Plug Company will erect a $250,000 building in the factory district and will employ one hundred hands at the start. A by-law granting the company tax-emption was passed on May 12th.

The Leggett & Platt Spring Bed Co., Limited, are adding a second story to their main building, 131 x 51 feet. The addition is of brick construction with steel sash, and is being made to take care of increased business.

Work on the new plant of L. W. Lawrence and Co., to be constructed on one of the city's factory sites, will begin within the next few weeks.

Wingham.—The Aero Cushion Tire Co., which has been organized locally, has purchased two buildings from the Western Foundry Co., and will make the necessary improvements to enable the manufacture of tires to be proceeded with. Officers and directors are local business men.

QUEBEC

Cap de la Madeleine.—The St. Maurice Paper Co. will build a machine shop and model shop here at a cost of $25,000.

Chicoutimi.—An addition is to be made to the mills of the Chicoutimi Pulp & Paper Co., at a cost of $375,000.

Grand Mere.—A $30,000 finishing-room is being erected by the Laurentide Co.

Lachine.—Lague Heating System, Limited, 56 St. Patrick st., plans to make an extension to its factory.

Lac au Saumon.—The Salmon Lake Drive & Boom Association, Limited, are considering the question of erecting a large wood and pulp plant here.

Montreal.—The three-story addition for the Tetrault Shoe Company on Demontigny street east, has now been practically completed. The interior work is well advanced.

A contract has been let for the erection of a $45,000 factory for Thos. Davidson Mfg. Co., Delisle st.

An addition is being made to the factory of the Acme Glove Works, Limited, 181 Vitre St. E.

Plans are being prepared, it is said, for a new plant for the Montreal Portland Cement Co.

The erection of a $150,000 abattoir is planned by the Montreal Abattoirs, Limited.

The Maple Leaf Mfg. Co., Limited, has been incorporated at Ottawa, with Kenneth Molson, of Montreal, as president, to take over the Lachine plant of the Machinery and Munitions Board, Limited, as well as the Windsor plant and general interests of the Menard Motor Truck Co., Limited, who have been manufacturing motor trucks in Canada since 1908.

Plans are in progress for $25,000 extension to plant of Dupont & Freres, Aird Ave., Haisonneuve.

Point aux Trembles.—An extension will shortly be made to the factory of Canadian Footwear Co.

Quebec.—Duchaine & Pedkins, Crown St., are making a $35,000 addition to their factory.

St. Boniface.—J. W. Boisvert has purchased a site for the erection of a $10,000 factory.

Sherbrooke.—The Canadian Connecticut Cotton Mills are erecting a four-story addition at an estimated cost of $50,000.

Three Rivers.—It is reported that American capitalists propose to erect a beet sugar factory in this district.

McKinnon Radiators

The McKinnon Industries, Limited, have recently issued a small pamphlet illustrating and describing their new Cellular Radiator which will be supplied to the manufacturers for use on standard makes of automobiles in Canada. From time to time in the history of the automobile industry various forms of radiators have been made and tried, only to be discarded for this and that reason. To-day it is conceded that the most effective radiator for the automobile is of the "cellular type." The process adopted by the McKinnon Industries in making their cellular radiator is explained and its superior merits pointed out. Those interested in the subject should write for further descriptive matter.

IMPERIAL BANK OF CANADA

Forty-fourth Annual Meeting of the Shareholders

Held at the Head Office, Toronto, Wednesday, May 28th, 1919, at 12 Noon

The Forty-fourth Annual General Meeting of the Imperial Bank of Canada was held in pursuance of the terms of the Charter at the Banking House of the Institution, May 28th, 1919.

THE REPORT

The Directors have pleasure in presenting to the Shareholders the Forty-fourth Annual Report and Balance Sheet of the affairs of the Bank as on 30th April, 1919, accompanied by statement of Profit and Loss Account, showing the result of the operations for the fiscal year.

The balance at credit of Profit and Loss Account carried forward from last year was	$1,204,942 91
The net profits for the year, after deducting charges of management, Auditors' fees and interest due depositors and after making provision for bad and doubtful debts and for rebate on bills under discount amounted to	1,247,516 75
Making a total at credit of Profit and Loss Account	$2,452,459 66

This amount has been applied as follows:—

Dividends at the rate of 12 per cent. per annum	840,000 00
Annual Contribution to Officers' Pension and Guarantee Funds	42,500 00
Special Contribution to Pension Fund	100,000 00
Contributions to Patriotic and other War Funds.	34,500 00
War Tax on Bank Note Circulation	70,000 00
Transferred to Reserve Fund	500,000 00
Balance of Account carried forward	865,459 66
	$2,452,459 66

Branches of the Bank have been opened during the year as follows:—

In Alberta:—Bear Lake, Crossfield, Daysland, Edson, Grande Prairie, Greencourt, Rocky Mountain House, Sangudo, Spirit River, Sylvan Lake, Waterhole.

In British Columbia:—Kimberley.

In Manitoba:—Gimli, Riverton.

In Quebec:—St. Jovite Station.

In Ontario:—Toronto—Danforth and Carlaw, Queen and Carlaw, St. Clair and Boon, Leaside; Simpson Street, Fort William; Grand Valley, Glenmorris, Kirkland Lake. Port Robinson, Queenston, Richards Landing, Smooth Rock Falls. Welland South, Waldemar.

In Saskatchewan:—Canwood, Dafoe, Edenwold, Fielding, Hepburn, Krydor, Lestock, Piapot, Waldheim.

The following branches have been closed:—

In Ontario:—Iroquois Falls, Leaside and Mount Dennis.

In Saskatchewan:—Kandahar and Lestock.

Since the close of the fiscal year branches have been opened at Colinton, Rockfort and Whitecourt, Alberta; Westminster and Arlington Streets, Winnipeg, Manitoba; Matheson and Nobleton, Ontario.

The Head Office and branches of the Bank have, as usual, been carefully inspected during the year and the Auditors appointed by the Shareholders have also made their examinations as required by the Bank Act. Their Report and Certificate will be found attached to the Balance Sheet. They offer themselves for reappointment.

It is with much regret that your Directors have to report the death during the year of Mr. Cawthra Mulock and Hon. W. J. Hanna, K.C. Their places on the Board have been filled by the appointment of Mr. Frank A. Rolph and Mr. Robert S. Waldie.

Owing to ill-health, Mr. Edward Hay was obliged during the year to relinquish his position as General Manager. His place has been filled by the appointment of the Assistant General Manager, Mr. William Moffat, who has been in the service of the Bank since 1881.

The Directors have pleasure in again testifying to the satisfactory manner in which the officers of the Bank have discharged their respective duties.

All of which is respectfully submitted.

PELEG HOWLAND,
President.

Liabilities

Notes of the Bank in circulation		$11,870,723 00
Deposits not bearing interest	$21,486,089 28	
Deposits bearing interest, including interest accrued to date of Statement	61,712,144 91	
		83,198,234 19
Balances due to other Banks in Canada	$792,522 85	
Due to Banks and Banking Correspondents in the United Kingdom	595 42	
Deposits by and Balances due to Banks elsewhere than in Canada and the United Kingdom	609,347 44	
Acceptances under Letters of Credit (as per contra)	139,575 00	
		1,542,040 71
Total Liabilities to the public		$96,610,997 90
Capital Stock paid in		7,000,000 00
Reserve Fund Account	$7,500,000 00	
Dividend No. 115 (payable 1st May, 1919) for three months, at the rate of 12 per cent. per annum	210,000 00	
Balance of Profit and Loss Account carried forward	865,459 66	
		8,575,459 66
		$112,186,457 56

Assets

Current Coin held by the Bank ...	$2,573,248 73	
Dominion Government Notes	9,554,118 00	
		$12,127,366 73
Deposit in the Central Gold Reserves		6,000,000 00
Deposit with the Minister for the purposes of the Circulation Fund		389,491 77
Notes of other Banks		840,795 00
Cheques on other Banks		4,364,152 52
Balances due by other Banks in Canada		603,324 47
Due from Banks and Banking Correspondents in the United Kingdom		323,970 95
Due from Banks and Banking Correspondents, elsewhere than in Canada and the United Kingdom		3,008,947 32
		$27,658,048 76
Dominion and Provincial Government Securities, not exceeding market value	$5,934,919 21	
Canadian Municipal Securities, and British, Foregn, and Colonial Public Securities other than Canadian	14,702,059 33	
Railway and other Bonds, Debentures and Stocks, not exceeding market value	775,397 91	
		21,412,376 45
Loans to Provincial Governments..	$37,000 00	
Loans to Cities, Towns, Municipalities and School Districts	4,610,473 30	
Call and Short Loans (not exceeding thirty days) in Canada on Bonds, Debentures and Stocks...	4,866,495 25	
		9,513,968 55
		$58,584,393 76
Other Current Loans and Discounts in Canada (less rebate of interest)		48,544,711 12
Liabilities of Customers under Letters of Credit (as per contra)		139,575 00
Overdue Debts (estimated loss provided for)....		376,949 44
Real Estate (other than Bank Premises)		548,886 27
Mortgages on Real Estate sold by the Bank.....		539,034 48
Bank Premises, at not more than cost, less amounts written off		3,390,333 92
Other Assets, not included in the foregoing		62,573 57
		$112,186,457 56

Auditors' Report to Shareholders

We have compared the above Balance Sheet with the books and accounts at the Chief Office of Imperial Bank of Canada and with the certified returns received from its Branches, and after checking the cash and verifying the securities at the Chief Office and certain of the principal Branches on 30th April, 1919, we certify that in our opinion such Balance Sheet exhibits a true and correct view of the Bank's affairs according to the best of our information, the explanations given to us and as shown by the books of the Bank.

In addition to the examinations mentioned, the cash and securities at the Chief Office and certain of the principal Branches were checked and verified by us during the year and found to be in accord with the books of the Bank.

All information and explanations required have been given to us and all transactions of the Bank which have come under our notice have in our opinion been within the powers of the Bank.

G. T. CLARKSON, F.C.A.

R. J. DILWORTH, F.C.A.

of Clarkson, Gordon and Dilworth.

The customary motions were made and carried unanimously.

Mr. G. T. Clarkson, F.C.A., Toronto, and Mr. R. J. Dilworth, F.C.A., Toronto, were appointed Auditors of the Bank for the ensuing year.

The Scrutineers appointed at the meeting reported the following Shareholders duly elected Directors for the ensuing year: Messrs. Peleg Howland, Elias Rogers, William Ramsay (of Bowland, Stow, Scotland), William Hamilton Merritt, M.D. (St. Catharines), Sir William Gage, Sir James Aikins, K.C. (Winnipeg), John Northway, J. F. Michie, Sir James Woods, E. Hay, Frank A. Rolph, R. S. Waldie.

At a subsequent meeting of the Directors Mr. Peleg Howland was re-elected President and Mr. Elias Rogers, Vice-President, for the ensuing year.

PELEG HOWLAND, President. **W. MOFFAT,** General Manager.

Condensed Advertising

FOR SALE

One Hydro Extractor, Craig make; basket 17 inches depth, 44 inches diameter. Good condition. For further particulars apply Slingsby Mfg. Co., Ltd., Brantford, Ont.

FOR SALE

Davis & Furber mule, 360 spindles, 2¼-inch gauge, 24 spool drums, 15 ends per spool. Machine in good condition. For full particulars apply Slingsby Mfg. Co., Ltd., Brantford, Ont.

FOR SALE

One Rope Wheel, 10 grooves, 4 ft. 3 ins. diameter, 5 15/16 ins. bore. One Rope Wheel, 10 grooves, 8 ft. 6 ins. diameter, 5 15/16 ins. bore. 10 Manilla Ropes, 1¾ ins. diameter, 4-strand, each about 175 ft. long (spliced). In good condition.

100 ft. 3 7/16-inch shafting, and 6 hangers for same; also 500 ft. 1¾-inch Manilla Rope, 4-strand (new). For further particulars apply The Slingsby Manufacturing Co., Ltd., Brantford, Ont.

FOR SALE

At Niagara Falls, Ontario, The Power City, solid brick building, two stories and basement, 40-h.p. boiler, hand elevator, eight thousand feet floor space; lot 40 x 120, additional land available; price reasonable; adjacent to post office and railways; possession June 1st; good opportunity to secure factory building at before war price. For particulars address Mortimer & Bampfield, Niagara Falls, Ontario.

WANTED

Agencies or representation for sound manufacturing firms by qualified engineer and officer in engineers. Twelve years' experience. Capable of handling any sound proposition. Full particulars and references submitted if desired. Box 3500, INDUSTRIAL CANADA.

FOR SALE

30 Ampere Rectifier, A.C. 110/220 volts—D.C. 30/118 volts. General Electric type N.S. 4, $200.00. Toronto and Hamilton Electric Co., Limited, 99-103 MacNab St. North, Hamilton, Ont.

Conservation of Property

Paint for Preservation is Absolutely Essential for the Conservation of Property

Property waste due to deterioration and decay in Canada constitutes a problem of paramount and far-reaching importance. Continuation of the present tremendous loss vitally affects the economic future of the country. If with the cessation of the war, we are to enter successfully upon a period of reconstruction and expansion it is imperative that conservation go hand in hand with development. It is as necessary to conserve created wealth as it is to prevent waste of national resources. Nature in time may restore devastated forest areas but it takes human labor to raise anew or repair property that has decayed from lack of protective paint. This work absorbs energies that would otherwise be devoted to industrial and economic progress. Paint for preservation is absolutely essential to the conservation of property.

COST CONTROL

Never in the World's history were minutes as valuable as they are to-day. Never in the history of business was the necessity of cost control greater than it is to-day, because

1. **Overhead expense is continually growing larger.**
2. **Employees' disputes and demands are becoming more frequent.**
3. **Competent help is always hard to get and to keep.**
4. **The wage bill keeps piling up.**

How your men occupy their time AFTER they reach the bench—how much of their time is Productive and how much Non-Productive, is shown you by the

International Cost Recorder

Suppose you have 40 men in a department and the purchased labor for the week is 1,000 hours. Suppose a foreman finds out that it was only 900 hours. Can he force a balance to bury this leakage?

NOT if the time records are PRINTED on International Job Cards.

That's the kind of question that implies success or failure for your business.

Let us send you our latest folders



International Cost Recorder

International Business Machines Co., Limited
(TIME RECORDER DIVISION)

FRANK E. MUTTON,
Vice-Pres. and Gen. Mgr.

Royce and Campbell Avenues
TORONTO

Also at Montreal, Winnipeg and Vancouver

(Also makers of Dayton Computing Scales and Hollerith Electric Tabulators)

Your Pay-Roll Cannot Stand "Leaks" Just Now Through Lost Labor Time

How can you detect them?
With an International Cost Recorder

Pencil records made by human hands — whether of employee or foreman—can never form an absolutely sound basis of arriving at your production costs.

Without accurate "cost knowledge" you simply don't know where you are.

With an International Cost Recorder you get correct, unchangeable, PRINTED records of the time each job was started and the time it was finished.

NAME Robert Sherman NO. 18 DATE FEB 15 1915

PART NO	OPER'N NO	PIECES	REJECT	ORDER NO	COST		RATE	Elapsed Time	CLOCK RECORD
						S			S 15 9.2
278	161	50	1	639	.44	B	20	2.2	B 15 7.0
						S			S 15 11.1
K79	161	75		651	.38	B		1.9	B 15 9.2
						S			S 15 13.3
874	89	100	2	672	.24	B		1.2	B 15 11.1
						S			S 15 16.4
618	161	250		678	.62	B		3.1	B 15 13.3
						S			S 15 17.0
K83	78	25		712	12	B		.6	B 15 16.4
						S			S
						B			B
						S			S
						B			B
						S			S
						B			B
						S			S
						B			B
				TOTAL COST	1.80			9	TOTAL TIME

This fac-simile card illustrates the record made with our No. 1008 International Cost Recorder. The printing wheels combine numerical symbol printing the date, hour wheel printing 1 to 24, minute wheel printing hours. Third item shows meal deduction of one hour to cover lunch period.

Above shows a sample International "job card" with the printed record of the actual working time spent on five jobs.



International Cost Recorder

Your pay-roll is your largest "raw material" purchase

How do you arrive at the difference between the Labor you buy and your
Productive Labor?

Your aim is to keep down the non-productive hours of your workmen. How can you do this without the fundamental requisite: A PRINTED RECORD of the actual productive time used?

Pencil records "don't go"—in time records any more than would pencil-written cheques—and for the same reason.

Let us help you solve the real time-keeping problem in your Plant

International Business Machines Co., Limited

(TIME RECORDER DIVISION)

FRANK E MUTTON, Vice-Pres. and Gen. Mgr.

Royce and Campbell Avenues TORONTO

Also at Montreal, Winnipeg, Vancouver

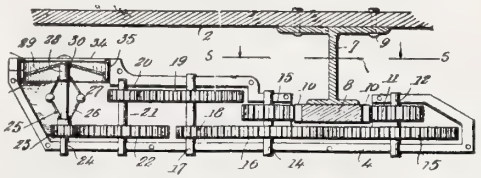
(Also makers of Dayton Computing Scales and Hollerith Electric Tabulators)

PATENTS FOR SALE

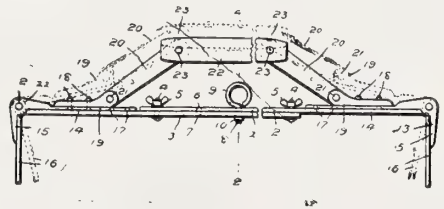
Patent applications through

Harold C. Shipman & Co.

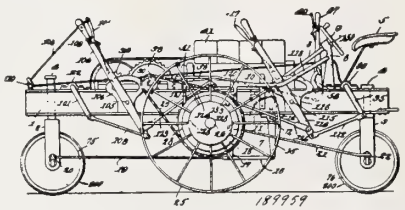
Patent Attorneys - Ottawa, Canada



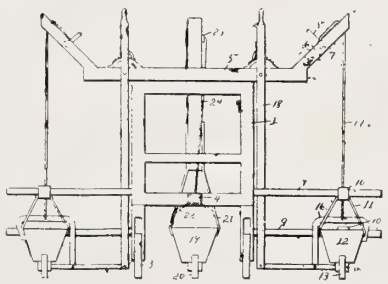
CENTRIFUGAL BRAKE MECHANISM.—Designed for use upon elevators, and is so arranged upon the cage as to be actuatable at a predetermined speed of rotation during normal movement of said mechanism; however, being so constructed that should the car travel at an abnormal rate of speed, gradually and automatically increases its speed and to cause an automatic brake device to be applied and set. Can. and U.S. patents for sale by Albert C. Cobb, Houston, Tex., U.S.A.



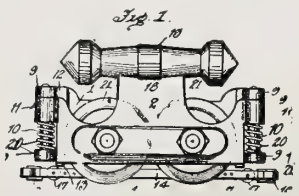
BRICK CARRIER.—Strong, durable and labor-saving device, cheap to manufacture and a necessity in handling bricks. Mr. Eugene D. Danielson, 229 Conn St., Buffalo, N.Y., offers patent rights in the Dominion for sale.



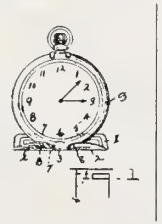
PLOW.—Which will go backwards along the field to be plowed without the necessity of turning at the end of the furrow, thus eliminating the time and labor now found in turning traction-driven plows and enabling the small farmer to use this modern labor-saving method of plowing. Can. patent rights for sale. Otto Hecht, Ridgeway, N. Carolina, U.S.A.



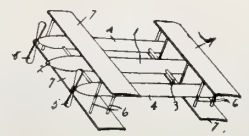
PLANTER.—New and improved form of planter, cheap to manufacture, strong, durable, and efficient in use, easily manipulated and should prove an attractive proposition to manufacturers. For full particulars apply to inventor, Gordon Warfield, 522 W. Saratoga St., Baltimore, Md. U.S.A.



WALLPAPER TRIMMER.—Especially designed and adapted for cutting pasted paper in an even, rapid and cleanly manner, and is also adapted for use in either right or left hand and for guiding with ruler or other support in such a manner as to obviate any liability of casual displacement thereof. Can. rights for sale. Chas F. Sheldon, 121 Front Ave., Salamanca, N.Y., U.S.A.



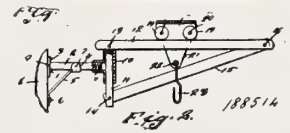
WATCH EASEL.—For displaying watches or similar articles. Is constructed from a single sheet of flat spring metal, slitted or cut so that all portions bounded by said slits and cuts may be bent to provide spring means for effectively supporting a watch so that said member of easel may be returned to its position, thus providing a small compact bundle for shipment or storage. Can. patent for sale. John R. Palmer, 8 Leet St., Revere, Mass., U.S.A.



An **AERIAL TORPEDO** provided with wings so that when discharged from a projecting plane through the air at a high velocity into engagement with an object and then explode, insuring accurate and steady flight thereof. Can. patent for sale. Edward H. Hughes, 1639 Garfield Ave., Canton, Ohio, U.S.A.

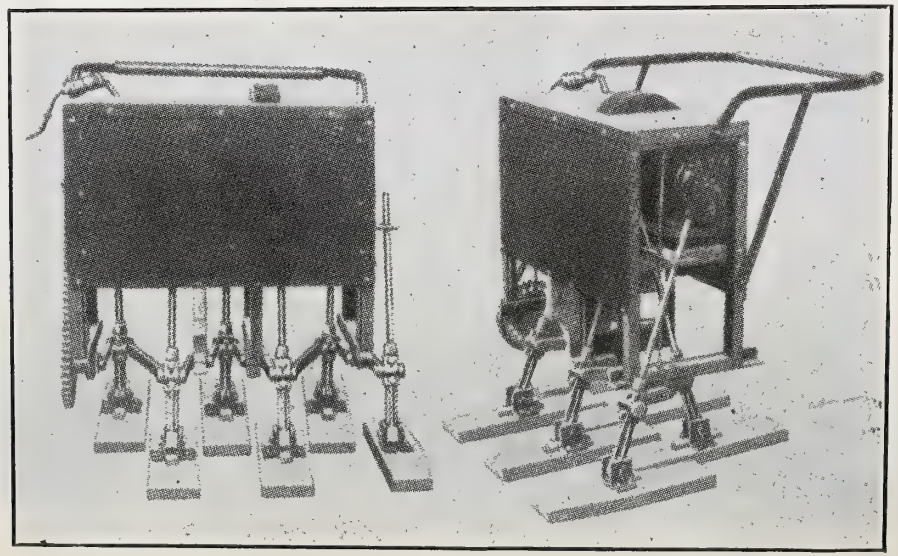


CURTAIN POLE having means whereby curtains or other drapery may be readily and effectively engaged with the pole without the necessity of employing pins or other members which would injure the fabric. It is cheap to manufacture and should prove an attractive proposition, as it is a domestic essential. Can. patent rights are for sale by Mr. Addison F. Gray, R.R. No. 1, Leavittsburg, Ohio, U.S.A.



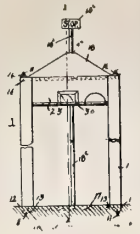
SUPPORT FOR SICKLE BLADES WHEN SHARPENING.—Will permit the blades to be moved freely across the face of grindstone and relieve the operator of the weight of the blade being sharpened. Can. patent for sale. Carl Lundgren, Cor. 6th and 7th Sts., Greeley, Ohio, U.S.A.

SILAGE TAMPER.—This article is attached to the distributor pipe which discharges the fodder immediately in front of the machine in a manner mixing the heavy and light parts effectually. The speed of the machine is fast enough to firmly pack each ton of fodder at least four times with a thump equivalent to a weight of 150 pounds falling from a height of 9 inches. This machine can be used in any silo. By the firm packing procured the settling is reduced to a small degree, so that it is not necessary to refill. Canadian patent rights are for sale by Dr. D. Sauerhering, Wausau, Wis., U.S.A.

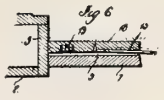


When writing advertisers, please mention INDUSTRIAL CANADA

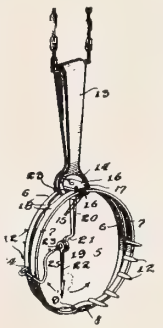
CANOPY AND SUPPORT. — Designed particularly for use by traffic policemen. This article will effectively protect the officer from rain and sun from both sides and above. Can be quickly adjusted to different heights to suit user. Canadian patent for sale. Elizabeth A. Hashberger, Schuyler, Neb., U.S.A.



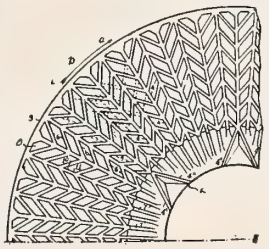
WEATHER STRIPS. —Providing an air-tight connection between the door and the door-frame, and at the same time allows the door to move to an absolute closed position and proper registration between the lock of the door and the keeper plate. Can. patent rights for sale by Alonzo E. Decker, South Prospect Street, Fremont, Ohio, U.S.A.

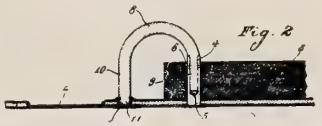


TRAP constructed of few parts, will not become out of order, strong, durable, simple and cheap to manufacture. May be readily set and baited and will instantly kill when sprung. This article will fill a long-felt want and should prove an attractive proposition to manufacturers. Can. patent for sale. Anders J. Ahlenius, Meadowlands, Minn., U.S.A.

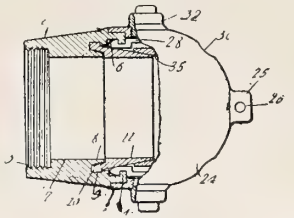


GRINDING PLATES for MILLS, particularly adapted for feed and corn mills, comprising a series of radial ribs and a series of differently inclined cross-wise ribs connecting the same, thus securing the most effective action upon the material. Can. patent for sale. Joseph H. Heishman, Lancaster, Pa., U.S.A.

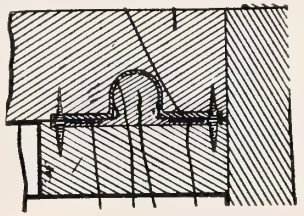




LOOSE LEAF BINDER that may be freely turned to permit inspection or making entries and so that the leaves will be held firmly, smoothly, evenly and perfectly flat. Can. patent rights are for sale by Mr. Ben. J. Pott, care of Ge. D. Barnard & Co., Vandventor & Laclede, St. Louis, Mo.

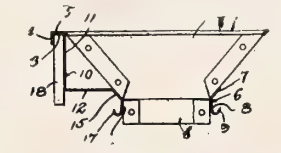


QUICK DETACHABLE COUPLING. —This article is strong, durable, easily manipulated and can be relied upon. Can. patent rights for sale. R. H. Martin, P.O. Box 227, Gainesville, Ga.

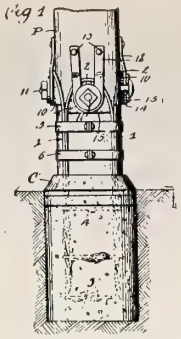


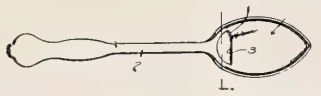
DOOR HOLDING MEANS for holding spring-actuated door in closed position, composed of a magnetic ball or head adapted to be attached upon the door frame or jamb and a socket carried upon the swinging edge of the door, composed of material that is responsive to the magnetic attraction in the member of part carried on the door jamb by which the swinging door will be drawn into closed position when it is swung within the radius of the power of the magnet. Can. patent for sale. Charlotte Hinchey, 72 Herkirmer St., Buffalo, N.Y.

BAG HOLDER. — Simply constructed, strong and durable and labor saving device which is a necessity to every farmer. For further particulars apply to inventor, Mr. Mark W. Thompson, R.D. No. 5, Box 48, Vassar, Mich., who offers Canadian patent for sale.



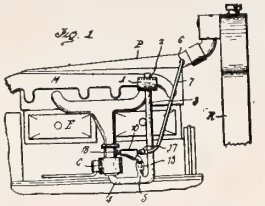
POST BASE of reinforced concrete adapted to be seated in and to rise slightly above the ground, having means for detachably connecting a post or pole therewith above the ground without interrupting the position of the base. Patent rights for sale by Alfred Hollingsworth, Clarkston, Wash., U.S.A.



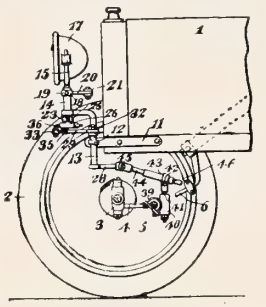


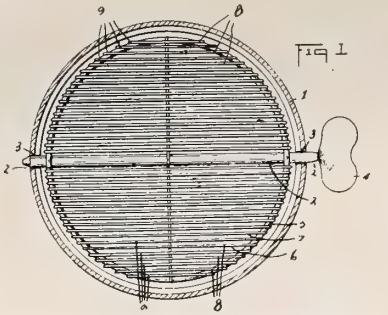
CORN SPOON having a cutting means for removing corn from the cob, which should prove a good seller and an attractive proposition to manufacturers. Can. Patent for sale. Capt. John J. Lieb, 1,000 S. 4th St., Louisville, Ken., U.S.A.

INTERNAL COMBUSTION ENGINE ATTACHMENT readily applied to most types of engines. Now employed in motor vehicles. The attachment vaporizes hot water taken from the radiator and supplies same to the mixture flowing from the carburetor to the cylinders, hot air drum attachment to the exhaust being used. Can. patent for sale. Elmer E. Hand, Walton, N.Y., U.S.A.

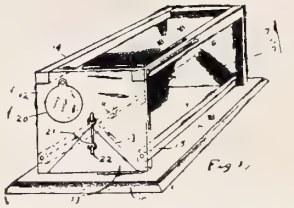


DIRIGIBLE HEADLIGHT.— May be easily adjusted to automobiles of different makes, easy to operate and adjustable to vary the angular movement or throw of the lamps when they are actuated by the steering gear, and will not interfere with the spring action of the auto. Canadian patent for sale. C. R. Stenberg, Genoa, Neb., U.S.A.

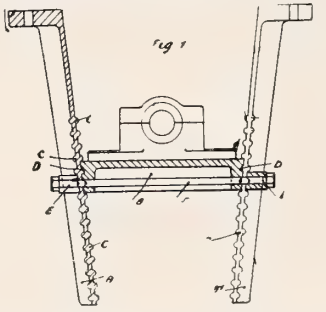




STOVE PIPE SPARK ARRESTER, to be pivotally mounted in the exhaust pipe of a stove or furnace for obstructing and retarding the flying sparks and cinders so that they will be prevented from escaping, while the device will permit the smoke and gases to freely pass through the pipe. Patent rights for sale. Emil Zimmerman, Butternut, Wis., U.S.A.



FLY TRAP for the extermination of one of our greatest Canadian pests and disease carriers, the fly. This article is cheap to manufacture and thoroughly efficient in use. Can. patent for sale. T. F. McDonough, Jr., Glen Cove, P.O. Box 161, Long Island, N.Y.



HANGER FOR SHAFTS.—This article is strong, durable and adaptable for very many different purposes. This hanger can be placed in many different positions. It is without doubt a boon and time-saver, requiring no skilled knowledge, nor has it any parts which require special adjustment. Can. patent for sale. Thos. Woodhead, 101 Water Lane, Leeds, Eng.

Manufacturers—Let us know what line of patents you are interested in, so we can send you copies from time to time.

When writing advertisers, please mention INDUSTRIAL CANADA

Plans for the 1920 British Industries Fair

Scope of the Fair has been Considerably Extended—Canadian Manufacturers will be Eligible as Exhibitors—Good Opportunity will be Afforded to Stimulate Export Trade with Great Britain and Other Countries of the World

By F. W. FIELD

British Government Trade Commissioner in Ontario

THE attention of Canadian manufacturers is directed to the opportunity which will be afforded by the British Industries Fair, 1920, for stimulating export trade not only with Great Britain but with many other countries throughout the world. According to a memorandum issued by F. W. Field, British Government Trade Commissioner in Ontario, the scope of the fair will be considerably extended.

"The arrangements so far," says Mr. Field, "make it probable that there will be sufficient space for the manufactures of suitable Dominion firms to be included. The fair is confined to British manufacturing firms, and the definition of a British firm, in this instance, is a firm whose principal works and head offices are situated within the British Empire and which is not controlled by foreign interests. Canadian manufacturers, therefore, coming within that definition, will be eligible as exhibitors.

"In order to assist manufacturers who have no British representatives to arrange for the erection of their stands, my Department (Department of Overseas Trade, Development and Intelligence) will undertake the work on their behalf, but it will be necessary for firms who have no representatives to pay in advance not only 2/-, in the case of the fairs held in London and Glasgow, and 3/6 in Birmingham, per square foot of floor space applied for; but, in addition to the above, 3/- per square foot for the erection of their stands. For example, a firm making application for 100 square feet at London or Glasgow, would have to pay in advance the total sum of £25, whereas a firm requiring 100 square feet at the Birmingham Fair would have to pay £32:10:0.

"Not only do the Department reserve to themselves the right to allot space in any position, but also to allot any less amount than that for which applicants have asked. In the event of applicants applying and paying in advance for more space than can eventually be allotted to them, the difference will of course be refunded.

"For the coming fair in London the Department has been so fortunate as to secure the Crystal Palace, the largest exhibition building in the world.

The schedule of trades of the British Industries Fair at London, Birmingham, and Glasgow, is as follows:

GLASGOW.

Textiles of all descriptions.
Ready-made clothing, including hosiery.
Hats and caps.
Boots, shoes and gloves.
Carpets and upholstery materials.
Foodstuffs (prepared and preserved) and beverages.
Chemicals (light and heavy).
Domestic chemical products.

LONDON.

Cutlery.
Silver and electro-plate.
Jewellery, watches and clocks.
Imitation jewellery, including hard haberdashery articles.
Glassware of all descriptions.
China and earthenware.
Paper, stationery and stationers' sundries.
Printing.
Fancy goods, including travelling requisites and tobacconists' sundries.
Leather for the fancy goods, bookbinding and upholstery trades.
Brushes.
Toys and sports goods.
Scientific instruments.
Optical goods and spectacle ware.
Photographic appliances and requisites.
Drugs and Druggists' sundries.
Musical instruments.
Furniture (knock down for export).
Art needlework requisites.

BIRMINGHAM.

Lighting fittings for electricity, gas, oil, etc.
Cooking stoves and utensils, including aluminium, enamel-ware, etc.
General hardware, including builders', marine and household ironmongery of all descriptions.
Tools (hand) of all descriptions and small machine tools.
Metal furniture for house, shop, office, garden and camp use, including bedsteads.
Perambulators, mailcarts and push-chairs.
Nautical instruments.
Firearms.
Fishing rods and tackle.
Machinery belting of all kinds.
Indiarubber goods for industrial and household purposes.
Motor-cycles and cycles.
Accessories for motor-cars, cycles and aeroplanes.
Weighing and measuring appliances and instruments.
Sanitary appliances.
Paints, colours and varnishes and painters' requisites.
Tubes in copper, lead, brass and steel, and pipe fittings.
Architectural and ornamental metal work, including gates and fencing.
Ropes of steel and hemp, cordage and string.

"The three fairs, though held in different cities (London Birmingham and Glasgow), are in reality one fair. They are held concurrently, each fair representing a specified group of industries, and no one industry being permitted to exhibit at two fairs. It is anticipated that there will be several thousand exhibitors at the 1920 Fair in London alone. There is also every reason to anticipate that several thousand overseas buyers will visit the fair.

"In view of the fact that admission to the fair is confined to trade buyers only, the general public not being admitted, it is satisfactory to be able to record that about 15,700 different visitors entered the fair during the eleven days it was open this year, and between them placed orders amounting to close on £2,000,000.

"The British Industries Fairs are not exhibitions. They are trade fairs to which admittance is restricted to *bona-fide* trade buyers seriously interested in the participating trades, and admission is by invitation only.

"The fair will be open on Monday, 23rd February, and close on 5th March.

"Copies of the regulations and full particulars with regard to the coming fair, as well as catalogues of the fair just held, may be seen at the offices of the British Government Trade Commissioners in Canada. Applications for space from eligible manufacturing firms in Canada can be received only through the British Government Trade Commissioners in Canada, as follows:

Montreal, 367 Beaver Hall Square (G. T. Milne, O.B.E.).
Toronto, 260 Confederation Life Bldg. (F. W. Field).
Winnipeg, 610 Electric Railway Chambers (L. B. Beale).

"Applications for space by *Ontario* manufacturers should be made through the British Trade Commissioner's office at *Toronto*, at the earliest possible opportunity, as applications sent through this office must be in London in the comparatively near future."

Use of the Metric System in Export Trade

(*Concluded from page 79*).

in Texas, in which states those units are to-day the common units of land measure. Another example is found in France where, in some sections, the old units of land measure are still predominant.

When outlying districts are incorporated within city limits, parcels of land are much reduced in size and smaller units come in. This gives an opportunity for the introduction of the metric system, but with the result that in the older portions of the town the old units are used, while in the new portions we find the new ones.

Similarly, initial surveys of the hinterland give an opportunity for the use of new units, but again with the result that the older portions of the country are measured in one set of units and the newer in another. Thus does the "adoption of the metric system promote 'uniformity.'"

In Uruguay, where the laws are more severe and more rigidly enforced than in any other country, it has been found necessary to authorize the use of old units for the measurement of land while in other countries the laws, in this application, are quietly ignored. This is the more significant because all transfers of real estate, as matters of public record, come before the eyes of officers of the law. In other countries, again, the purchase and sale are made in Spanish units and the day is then saved by inserting metric equivalents in the documents of record. This is called "using the metric system."

Only complete ignorance of history as well as of principles can lead anyone to urge a change in units of land measurement.

In marine measurements and sea shipments, the English system is used everywhere, although mixed with metric units, especially for inland navigation.

Classified in another way, the most used metric units are those of capacity. Next come those of weight, and, trailing far in the rear, those of length and their correlatives of area. This is in accordance with a law which long ago made itself apparent.

In view of the above facts, which are beyond doubt or question, how much respect can the reader have for those who tell us that "In export trade we have no choice—we must come to the metric system"; how much for those who say "They have forgotten their old units"; and that "Our units are meaningless to them." Is it not clear that such statements do nothing but demonstrate the ignorance of those who make them?

When reflecting upon these facts, please remember that the "adoption" of the metric system in these countries was begun more than half a century ago—most of these countries having begun the experiment between 1850 and 1860.

Change in Express Hours

Express Companies Reduce Hours of Men on Vehicles from Ten to Eight Hours

The following letter, of interest to manufacturers, has just been received from Mr. C. N. Ham, Secretary, the Express Traffic Association of Canada:

"The men on the vehicles of the Express companies have been serving you during ten actual working hours, exclusive of the meal period.

"For the purpose of improving the working conditions of their employees and to accommodate what seems to be the general public sentiment, the express companies have adopted the eight-hour day. To give the employees the benefit of the shorter day, it has been necessary to rearrange the hours for collection and delivery service.

"Effective June 1st, 1919, collection and delivery by the companies' vehicles will be confined to the hours between 8 a.m. and 5 p.m. Depot offices where night staffs are maintained will be open for the delivery of incoming shipments to consignees calling for them, and for the receipt of outgoing shipments which are not ready when last vehicle call is made.

"Will you please inform your members promptly of the new arrangement and of the necessity for it.

"Shippers who receive regular calls from express companies should arrange to have their packages ready at least one hour earlier that at present.

"Shippers who do not receive regular calls and by whom requests for service are telephoned to the express companies, should telephone their calls as early in the day as possible.

"We hope for the co-operation of your Association and its members in our efforts to give an efficient service."

Steamship Service

Space Available for Commercial Traffic Will be Very Small During Month of June

The situation in regard to available space for commercial traffic on ocean vessels, particularly to the United Kingdom, has been given considerable attention by the Association, the Government and others interested. The difficulty has been entirely due to the requirements of the British Ministry of Shipping. For the past two or three months 70 per cent. of the dead weight space has been utilized by the British Ministry of Shipping. Effective June 1st, this amount was reduced to 50 per cent. However, contracts have already been made for practically all of the remaining 50 per cent. in which to ship meats and foodstuffs.

From this it will be seen that, regardless of the reduction in the amount of space required by the British Ministry of Shipping, the space available for commercial traffic in June will be very small. It is expected, however, that the bulk of last year's grain crop will have moved by the end of June. Therefore, about July 1st conditions in regard to space should be more favorable.

Ocean Rates. The question of rates, of course, depends entirely on the question of space and traffic offering, or, in other words, on supply and demand. Therefore, just so long as the available space for commercial traffic is inadequate to care for the tonnage offering, rates will undoubtedly remain high.

It might be well to point out that the Government is placing vessels as fast as possible in the different trades with a view of supplying more space. This space, added to that made available by reduction of the British Ministry of Shipping requirements, should assist in increasing the supply of space. Just as soon as steamship companies begin to compete for traffic, rates will undoubtedly decline.

A long list of industries, in which the use of oil burners has been found economical, efficient and time-saving, is furnished by the Canadian Hauck Burner Co., Limited, which has just established a plant in Port Hope to manufacture Hauck oil burners. These burners are used by many of the most progressive and prominent concerns in the Dominion, who have recognized the great advantages of oil over other fuels. Oil is steadily replacing charcoal, coal, coke, wood, etc., in many industries because the cost is lower; the heat is clean, free from smoke or soot and, on account of complete combustion, free from ashes; the necessary heat is secured in the quickest possible time and can be maintained regardless of atmospheric conditions.



Consider Them As an Investment

Consider these new "Office Specialty" Counter Height Filing Sections in the light of an investment that pays you real dividends in actual money saved.

In the first place "Office Specialty" Counter Height Filing Sections serve all the purposes of high-grade filing cabinets. And in addition they combine the function of an office counter. That's where your first dividend comes in—you save, in first cost, the price of a counter.

On top of this there's your dollar-and-cents saving represented by the floor space conserved. And at the prevailing rate of rentals this saving means quite a repectable figure on your bank balance.

COUNTER HEIGHT SECTIONS

If this were all the service these Counter Height Filing Sections performed you would even then be getting double value for your money.

But they do more.

They act as department divisions in an office when stacked together as shown in the illustration.

Any record in his department is available to the executive in half the time it would take the filing clerk to walk to the filing room.

So besides the known savings they effect in space—and consequently money—they enable your clerks to get papers and records for you quickly—they save your time and the time and energy of your staff.

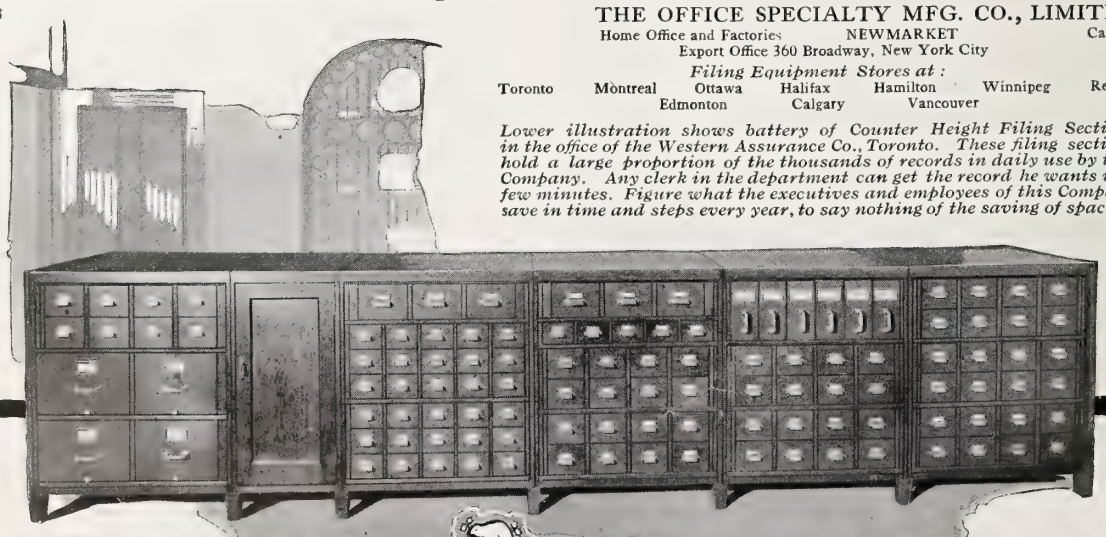
Tell your stenographer to type a memo today for descriptive folder "The Conservation of Space in Your Office." It's free.

958

THE OFFICE SPECIALTY MFG. CO., LIMITED
Home Office and Factories NEWMARKET Canada
Export Office 360 Broadway, New York City

Filing Equipment Stores at :

Toronto Montreal Ottawa Halifax Hamilton Winnipeg Regina Edmonton Calgary Vancouver



Lower illustration shows battery of Counter Height Filing Sections in the office of the Western Assurance Co., Toronto. These filing sections hold a large proportion of the thousands of records in daily use by this Company. Any clerk in the department can get the record he wants in a few minutes. Figure what the executives and employees of this Company save in time and steps every year, to say nothing of the saving of space.

OFFICE SPECIALTY

LABOR SAVING OFFICE DEVICES "Care" TIME IS MONEY

FILING SYSTEMS

OFFICE AND FINANCE

Bookkeeping and a Bookkeeper's Requirements

By PHILIP E. KUNTZ

(Reprinted from the "Manufacturer's News")

BOOKKEEPING is of two kinds; single entry and double entry. Single entry bookkeeping is practically obsolete. In its operation but one book is required, commonly called a day book or blotter. The manner in which this book was kept depended very much on the orderliness of the person handling it. Both purchases and sales were recorded in chronological order, no distinction being made for either. The amounts may or may not have been extended into the columns, provided it contained columns. Sometimes the amounts were added and again not. If they were added, the information was of little value, since it contained both purchases and sales, salaries, wages and expenses. No trial balances were taken, as such a thing was unknown. When payments were made for either purchases or sales, it was necessary to run through the book and find the proper entry in order to check with a mark denoting "paid," or to note the word paid, with or without the date, and the amount. In the early days no ledger accounts were kept, but at this period it marked the point at which double entry bookkeeping was making its innovation. It can be seen that there was no check on the cash, and the opportunities for dishonesty were great. As to whether or not dishonesty was greater in these early days than now, very few of the present generation can recall.

Evolution of Double Entry

At the time single-entry bookkeeping was the only known method of keeping books, single proprietorships and partnerships were most numerous, and the country boasted of no such huge industrial concerns as we have to-day. More systematic and orderly arrangement of the accounts was necessary as the size of the concerns grew and corporations began to take the place of single proprietorships and partnerships It was impossible for one person to make the voluminous entries, so more than one blotter or day-book was started. Ledger accounts must have been opened with each customer, and separate books for cash opened, perhaps one for receipts and another for disbursements. Monthly statements, somewhat in the form of a trial balance, must have made their appearance, and the merchant or manufacturer who received such princely documents once a month was worshipped by the business world. Business men were more secretive in those early days than at the present time. Industrial associations, commercial associations, manufacturers' associations and boards of trade were doubtless unknown, and if the thought occurred to organize such associations they received very little welcome because of prejudice and distrust. The secrets of business were too sacred to hazard discussion. Pause a moment and think of the state of mind these pioneers would be thrown into to see business men to-day exchanging ideas with all their cards on the table, mutually helping one another in an endeavor to eliminate cut-throat competition!

The history of double entry bookkeeping has been traced to an Italian, Luca Paciola, in 1494, who, upon seeing the difficulties of business men keeping accounts of their businesses upon clay fashioned into bricks and baked, a method originated by the Egyptians, and the more modern single entry blotter, originated a debit for every credit and *vice versa* on the algebraic equation. Almost every book on modern accounting published devotes a part of its first chapter to early bookkeeping methods and gives a more accurate and reliable hisory than I can in this hasty sketch. Bookkeeping was to be learned only in a business; there were no schools or business colleges, but with the demands for employees having a knowledge of bookkeeping, private instructors sprang into existence who developed what has now become the business college. They did pioneer work, but their mills ground too rapidly, with the result that many persons unfitted to keep the accurate detail required were forced into the business world. The method was to divide bookkeeping into four sections, with subdivisions of accounts, to keep a record of each class of detail desired. The principal sections were known as Proprietors' accounts, Speculative accounts, Resource accounts and Liability accounts, or some terminology similar thereto. The speculative accounts are commonly known to-day as the nominal or expense accounts. Statements were sent out monthly, and anyone capable of keeping such an orderly set of books was looked upon with the highest degree of respect. Many of our pioneer business men can trace their industrial careers back to the days of their keeping books, and it is said that John D. Rockefeller once kept books. It is generally considered that he is the richest man in the world. The bookkeeper of thirty or fifty years ago was correspondent, credit manager, sales manager, office manager, and practically all power was centred around him, since he knew more of the details of his employer's business than the proprietor himself. Why should he not? The high degree of respect which the bookkeeper enjoyed was doomed to lose its lustre, and to-day the bookkeeper enjoys (or rather suffers) less respect in many instances than the office boy. To-day in many instances he is miserably underpaid for what is expected of him, and his remuneration is not on a par with a coal teamster, perhaps due to his wearing a white collar and enjoying the comforts of a warm office in winter or a cool fan in the summer. Faithfulness, reliability, accuracy and general knowledge of the business are frequently looked upon as of little value. If business is good, and his work is heavy, he is called upon to remain late at night to keep up with his work or to get out special reports, of which there are many in these strenuous times.

Business Man's Knowledge

Most business men's knowledge of bookkeeping is so meagre and unreliable that it is dangerous. Very few know that if they made 25% profit on the cost of goods sold it means but 20% profit on sales, and of course at the end of the year they expect their profit and income account to show a gross profit of 25%. Since they are unable to find it, their suspicion is too often directed to the bookkeeper. It would be interesting to know how many business men could

BANK OF MONTREAL

Established over 100 Years

Capital Paid Up - - $20,000,000
Rest - - - $20,000,000
Undivided Profits, $1,661,614
Total Assets - $489,271,197

BOARD OF DIRECTORS:

Sir Vincent Meredith, Bart., President
Sir Charles Gordon, G.B.E., Vice-President
R. B. Angus, Esq. — Lt.-Col. Molson, M.C.
Lord Shaughnessy K.C.V.O. — Harold Kennedy, Esq.
C. R. Hosmer, Esq. — H. W. Beauclerk, Esq.
H. R. Drummond, Esq. — G. B. Fraser, Esq.
D. Forbes Angus, Esq. — Colonel Henry Cockshutt
Wm. McMaster, Esq. — J. H. Ashdown, Esq.
E. W. Beatty, K.C.

Head Office: MONTREAL

Sir Frederick Williams-Taylor, General Manager

Branches and Agencies — Throughout Canada and Newfoundland, At London, England, and at Mexico City In the United States - New York, Chicago, Spokane. San Francisco - British American Bank (owned and controlled by Bank of Montreal).

A GENERAL BANKING BUSINESS TRANSACTED

ESTABLISHED 1875

IMPERIAL BANK
OF CANADA

CAPITAL PAID UP $7,000,000 RESERVE FUND $7,000,000

PELEG HOWLAND, President

The Bank offers a service of the highest order to Canadian manufacturers because of its 152 Branches located in important industrial and agricultural centres throughout Canada.

COLLECTIONS made at all points in Canada and in foreign centres.

DRAFTS—Money Orders and Letters of Credit issued, available throughout the world.

EXCHANGE—Domestic and Foreign Exchange bought and sold.

SAVINGS received at all Branches—interest credited half yearly at current rate.

Accounts of Merchants and Manufacturers solicited.

HEAD OFFICE - TORONTO

find the present worth of a note due in sixty or ninety days bearing 6% interest. It is generally believed that if there are 10% of the business men who have a pretty good knowledge of bookkeeping they have been rated very high; but how many of this ten per cent. can identify a trial balance, a manufacturing statement, a trading statement, a profit and income statement, or a balance sheet if the titles were left off? Since they are unable to identify such statements, what is their hope of making them up? Nevertheless, the business man must dictate to the bookkeeper and tell him how to make entries that are grossly erroneous and costly in view of the present income and excess profits taxes. The great regret is that they don't dictate more and then learn when an accountant is called in that their income taxes are so high because of their not allowing the bookkeeper to use his knowledge when he knows better. The facts should be presented to the bookkeeper and the purpose that is desired to be accomplished. This will prevent the doctoring and reversing of entries at some future time. Many bookkeepers are not much better qualified. I have had occasion to make inquiries as to what is the difference between bank discount and true discount, and I can not recall as many as five who knew that there is such a thing as true discount. Similarly the equation of accounts.

The Bookkeeper's Requirements

The requirements of a bookkeeper depend largely upon the nature and the size of the business for which he is to keep books. The eighteen-year-old bookkeeper with a common school and business college training capable of earning $15.00 a week, is not capable of opening a set of books. He will present a ready-made stock article taken off the shelf for which he has been granted a diploma (mulcted out of $10.00) as credentials of his fitness. His classifications of accounts is not adapted to the business for compiling the data that will be helpful to the concern. He will dump all raw material, supplies and labor (like so many clay bricks) into what is called a manufacturing account, and all selling expenses into another account called "Selling," in both of which is hidden a mass of data that will safely guide a concern through many a troubled sea. Such accounts serve the purpose of striking a monthly trial balance, but they are poison gas for the business man requiring statistical data. The bookkeeper must have an accurate knowledge of the statistical requirements of a business; sales, manufacturing and general. He must have imagination, foresight and love for figures and detail to solve knotty problems from which others shrink on account of the labor and thought involved. His knowledge of the intricate details of the business will grow in proportion as he is willing to apply himself in his endeavor to solve them. Such a bookkeeper will make himself invaluable, and if his services are appreciated, he has an excellent opportunity of becoming a partner or a stockholder in the business. With few exceptions, employers are always willing to assign work to others who are capable of doing it, and here lies the bookkeeper's opportunity of getting out of routine detail. One will always be a mediocre bookkeeper and an assembler of routine detail so long as he persists in doing nothing more than he is told. The opportunities for a bookkeeper to grow in these days are manyfold better than they have ever been for becoming an accountant if he will apply himself, either by home study of higher accounting or by attending one of a number of schools teaching commerce.

Canadian Cottons, Limited

Big Increase in Profits for the Year ended on March 31st last

Manufacturing profits of Canadian Cottons, Limited, for the year ended March 31, 1919, amounted to $1,365,103, as compared with $926,615 in 1917-18, and $593,272 in 1916-17 The sum of $15,000 was credited to reserve and $400,000 to depreciation, while $200,000 was set aside to finance changes in power plants. The balance represents 19 per cent. on the common stock, as compared with 14.6 per cent. a year ago. After all deductions, including a 6 per cent. dividend on common, there remained a surplus of $35,783 to carry forward, bringing the total surplus up to $2,228,893.

The balance sheet shows some very interesting details as to industrial conditions in connection with the company. The inventory has been reduced from $2,496,309 to $1,348,077 during the year. Part of this is due to the decline in the value of textile lines during the past month, which was allowed for in making up the inventory, with a further allowance, doubtless, for any future reductions in prices should these be necessary. At the same time the prevailing prices, although greatly reduced one month ago, are, on the average, above those of one year ago. The real meaning, therefore, in the lower inventoried value is the fact that stocks of raw cottons, yarns and fabrics have been cut down as compared with last year. This is in accordance with the policy of the textile companies at this time, when future prices of all of these lines must be regarded as uncertain, and when buying is much less in bulk than at a time when the supply was limited. The item of raw cotton in the total has shrunk from $1,415,797 to $473,021.

Bank of Montreal

Effect of Acquisition of Bank of British North America Exhibited in Six Months' Figures

The half-yearly statement of the Bank of Montreal, to April 30th, 1919, is the first report of the larger banks to be published since the signing of the armistice. This year the Bank of Montreal statement is also of particular interest, because it is the first statement that discloses the position of the bank following on the absorption of the Bank of British North America. As a result of this important acquisition the Bank of Montreal now has a paid-up capital of $20,000,000 and a rest of $20,000,000, making, in all, total capital resources of $40,000,000.

As was well known throughout the period of the war, the resources of the leading banks of the country were to a great extent placed at the disposal of the Government for the handling of special war business. The half-yearly statement of the Bank of Montreal indicates that since the signing of the armistice there has been a gradual adjustment of these special accounts, and the banks are gradually getting back to the normal lines of business undertakings.

On this account there is a substantial gain in current loans, as compared with a year ago. This is all the more remarkable when it is remembered that for some months past many of the larger industries of Canada have not been working to anything like capacity and for this reason their requirements are away below normal. There would seem, however, to be a steady gain in general business throughout the country and every facility is being given to the development of export trade.

The profit and loss account also indicates the manner in which the various adjustments have been made in the rest

THE ROYAL BANK OF CANADA

Capital Paid Up	$14,000,000
Reserve and Undivided Profits	15,500,000
Total Assets	427,000,000

HEAD OFFICE - MONTREAL

BOARD OF DIRECTORS:

Sir Herbert S. HOLT, Pres. E. L. PEASE, Vice-Pres
E. F. B. JOHNSTON, K.C., 2nd Vice-Pres.

Jas. Redmond	C. S. Wilcox
G. R. Crowe	A. E. Dyment
D. K. Elliott	C. E. Neill
Hon. W. H. Thorne	Sir Mortimer B. Davis
Hugh Paton	G. H. Duggan
Wm. Robertson	John T. Ross
A. J. Brown, K.C.	R. MacD. Paterson
W. J. Sheppard	W. H. McWilliams

OFFICERS

E. L. Pease, Man. Director, C. E. Neill, Gen. Manager. F. J. Sherman, Asst. Gen.-Manager; M. W. Wilson, Supt. of Branches.

Branches in every Province of the Dominion of Canada and in **Newfoundland**; in **Havana** and throughout **Cuba**, Porto Rico, Dominican Republic, Costa Rica, and Venezuela; **Antigua**, St. John's; **Bahamas**, Nassau; **Barbados**, Bridgetown, **Dominica**, Roseau; **Grenada**, St. George's; **Jamaica**, Kingston; **Montserrat**, Plymouth; **Nevis**, Charlestown; **St. Kitt's**, Basseterre; **Trinidad**, Port of Spain and San Fernando; **British Guiana**, Georgetown, New Amsterdam and Rose Hall (Corentyne); **British Honduras**, Belize.

SPAIN, Barcelona—Plaza de Cataluna 6.
LONDON, England, OFFICE—Princes St., E.C.
NEW YORK AGENCY—Cor. William and Cedar Sts.
(Savings Department at all Branches)

Banking Service

The attention of manufacturers is drawn to the excellent facilities this Bank offers in all branches of a complete banking service.

A good banking connection is an essential to the success of the manufacturer or merchant.

THE CANADIAN BANK OF COMMERCE

HEAD OFFICE - TORONTO

Capital, $15,000,000. Reserve Fund, $15,000,000
Total Assets over $440,000,000

account and the special appropriations provided for out of the profits for six months. The net profits for the half-year to the end of April amounted to $1,751,237, which compares with $1,287,587 in the corresponding period a year ago. The amount brought forward at the end of the last accounting period was $1,901,613, and premiums obtained on new stock amounted to $3,500,000. These totals brought the amount available for distribution at the end of the six months' period up to $7,152,850. Four million dollars was credited to rest account, and after providing for dividends, etc., $1,661,614 was carried to profit and loss.

The principal accounts as of April 30th, 1919, and April 30th, 1918, compare as follows:

	April 30, 1919.	April 30, 1918.
Total Assets	$489,271,197	$426,322,096
Liquid Assets	293,980,708	291,624,073
Current Loans and Discounts in Canada	157,683,463	100,294,678
Call and Short Loans in Great Britain and United States	76,653,440	96,584,365
Dominion Notes	54,107,243	60,457,838
Gold and Silver Coin	24,743,935	20,931,133
Deposits bearing Interest	268,167,111	247,904,855
Deposits not bearing Interest	124,736,111	109,851,949
Profits for the Six Months	1,751,237	1,287,586
Capital Stock	20,000,000	16,000,000
Rest Account	20,000,000	16,000,000

Amherst Pianos

Net Profits for the Year were $44,009, after Deducting Expenses and Charges

Amherst Pianos, Limited, Amherst, N.S., enjoyed a trading profit during its last fiscal year of $97,745, and after deducting expenses and charges, a net profit of $44,009.

The statement of assets and liabilities shows $347,887 for real estate and buildings at Amherst and branches, and goodwill, machinery, plant and equipment is $24,743, and reserve for depreciating, $2,968. Current assets are set down at $289,198 for accounts and notes receivable, $84,536 for inventories of materials on hand at the factory, and $50,484 at branches. Liabilities show $217,852 in bank loans, secured by assignment of accounts receivable, and on accounts and notes payable.

The surplus at the end of the company's year in 1918, was $49,319, which with the profit for the present year, makes a total of $93,319.

Imperial Bank Expands

Substantial Growth in Profits and Large Increase in Deposits During Past Twelve Months

The forty-fourth annual statement of the Imperial Bank of Canada for the period ending April 30th, 1919, is satisfactory from every standpoint. Net profits showed an increase over the favorable record of the previous year, aggregating $1,247,516 as compared with $1,185,066. $500,000 was added to reserve fund account, bringing the total reserve up to $7,500,000, which is $500,000 in excess of the paid-up capital. The bank increased its holdings of securities, its deposits increased and it placed a larger volume of loans. Holdings of Provincial and Dominion Government securities expanded from $5,361,000 to $5,934,000, while Canadian municipal, British, foreign and colonial public securities held increased from $13,781,000 to $14,702,000.

Call loans outstanding at the end of April were almost double those of the year before, the total being $4,866,000, largely due to financing customers in connection with war



Earnscliffe Linen Bond

Facsimilie of Watermark

THE WHY OF THE WATERMARK

As the sterling mark on silver, the karat mark on gold—so is the watermark in paper. It is the guarantee of the maker that it is made up to a certain standard of quality and signifies his confidence in his product. We recommend Earnscliffe Linen Bond as a high-grade bond paper but at a reasonable price. The "R Shield" watermark signifies "Rolland Quality," the utmost in Bond, Ledger and Writing papers.

THE ROLLAND PAPER CO., LIMITED

General Offices:
142 St. Paul St. West
MONTREAL

HIGH-GRADE PAPER MAKERS

Mills at
St. Jerome and
Mont Rolland, P.Q.

loan subscriptions. The strong support given to the business enterprises of the country is demonstrated by the fact that current loans outstanding totalled $48,544,000, all in Canada, as compared with $40,302,000 a year ago. The bank's total assets amounted to $112,186,000, an increase for the year of over $10,000,000.

A substantial growth in deposits indicates an increase in the bank's customers. Current deposits expanded over a million and a half dollars to $21,486,000, while savings deposits grew from $55,478,000 to $61,712,000. This brought total deposits to $83,198,000, an increase of nearly $8,000,000.

The financial strength of the bank is well indicated by the fact that quickly realizable assets amounted to over $58,000,000 as against liabilities to the public of $96,610,000, a ratio of over 60 per cent.

Howard Smith Paper Mills

Shareholders Approve of Bond Issue to Extend Plant and Remove Indebtedness

An issue of $1,500,000 6 per cent., 15-year bonds for the purpose of extending the Beauharnois mill of the C. Howard Smith Paper Mills, Limited, and clearing off bank indebtedness was authorized at a recent meeting of the shareholders of the company. The Beauharnois mill makes a very high grade of paper, and business has been active. The company will double the capacity of the plant. The new Crabtree mill, which at the time of the annual meeting was not far ahead in orders, now has a supply for several months. The outlook for the company is regarded as quite bright, and it is felt that in a few months the common dividend of 8 per cent. will be resumed.

Making Them Shareholders

System Worked Out by a Massachusetts Industry to Help Employees to Save

A Thrift Club to encourage thrift, economy and savings among the employees by allowing them to loan their money to the company, and to provide opportunity for investment, has been established by the Hood Rubber Co., of Watertown, Mass., and its methods may prove of interest to Canadian manufacturers. The plan briefly is as follows:

Payments of one dollar or more by employees can be made on any business day. The company offers to the employees the opportunity to receive six per cent. on their money. All money received from employees will be used in the business of the company or will be invested in the preferred stock of the company. Such preferred stock will be held by a trustee under a declaration of trust for the benefit of employees holding receipt books.

Receipt holders whose receipt holdings are sufficient for the purpose may at the option of the company exchange their holdings for the Hood Rubber Company preferred stock. Such exchange will be based on the market value of the stock at the time of exchange. This feature creates an easy payment method by which employees are offered the opportunity of becoming stockholders, and thus sharing further in the prosperity of the company.

The administration of the Thrift Club is to be by the treasury department; and the office of the club is located in the factory payroll office of the company; and will be open on all business days between the hours of 8.30 a.m. and 5.00 p.m., for the transaction of Thrift Club business.

The Merchants Bank of Canada

Head Office, MONTREAL **Established 1864**

Paid-up Capital	$ 7,000,000
Reserve Funds	7,437,973
Total Deposits (January, 1919)	132,000,000
Total Assets (January, 1919)	162,000,000

President: Sir H. Montagu Allan, C.V.O.
Vice-President: K. W. Blackwell
General Manager: D. C. Macarow
Supt. of Branches and Chief Inspector: T. E. Merrett

AN ALLIANCE FOR LIFE

Many of the large Corporations and Business houses who bank exclusively with this institution have done so since their beginning. Their banking connection is for life—yet the only bonds that bind them to this bank are the ties of service, progressiveness, promptness and sound advice.

309 Branches in Canada Extending from the Atlantic to the Pacific.

UNION BANK OF CANADA

Established 1865 **Head Office, WINNIPEG**

Paid-up Capital	$5,000,000
Reserve Fund	$3,600,000
Total Assets as at Nov. 30th, 1918, over	$153,000,000

FACILITIES for HOME and FOREIGN TRADE

With 341 branches in Canada, from Halifax to Prince Rupert, the Union Bank of Canada offers excellent facilities for the transaction of every phase of modern banking business.

In connection with export trade, attention is particularly drawn to the advantages offered by the Foreign Exchange Department of our London (England), New York and Montreal Offices, and Manufacturers and Exporters are invited to avail themselves of the Commercial Information Bureaus established at these Branches.

New York Agency, 49 Wall St., New York City
W. J. Dawson F. T. Short, Agents

100% production may be obtained by you at intervals
but our systems *maintain* maximum production

Thorne, Mulholland, Howson & McPherson

INDUSTRIAL ADVISORS

Offices—Bank of Hamilton Building Toronto, Ont.

RIORDON SALES COMPANY, LIMITED

MONTREAL

Offer for Sale

Sulphite Fibre Wood Pulp

BLEACHED AND UNBLEACHED

FOR PAPER MILLS

IMPERVIOUS SPRUCE SHEATHING

Lumber

SPRUCE, HEMLOCK AND PINE, CEDAR RAILWAY TIES AND SHINGLES, SPRUCE CLAPBOARDS.

SALES MANAGERS

T. J. STEVENSON GEO. E. CHALLES

THE BROWN BROTHERS LIMITED

Simcoe and Pearl Sts. TORONTO



MANUFACTURERS OF

ACCOUNT BOOKS, LOOSE LEAF LEDGERS

Binders and Specialties

LEATHER GOODS—DIARIES—STATIONERY

Printers' and Bookbinders' Supplies

Established 1849

BRADSTREET'S

Capital and Surplus - - $1,500,000

Offices Throughout the Civilized World

Executive Offices: Nos. 346 and 348 BROADWAY, N.Y. CITY, U.S.A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying, and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world. Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary, and business corporations. Specific terms may be obtained by addressing the Company at any of its offices. Correspondence invited.

OFFICES IN CANADA

Edmonton, Alta. Hamilton, Ont. London, Ont.
Halifax, N.S. Ottawa, Ont. Quebec, Que.
Montreal, Que. Toronto, Ont. Vancouver, B.C.
St. John, N.B. Winnipeg, Man. Calgary, Alta. Victoria, B.C. Sydney, N.S.

THOS. C. IRVING, Gen. Man. Western Canada, Toronto

EXPORTERS OF

Reed Organs, Piano Stools, Music Cabinets.

Catalogue B.

The Goderich Organ Co. Limited

GODERICH, CANADA

Closet Seats, Flush Tanks, Medicine Cabinets, Everything for the Bathroom.

Write for Catalogue C and Price List.

Shoe Company Expands

The Perth Shoe Company, Limited, will shortly make an addition to their plant in Perth, Ont. In a statement to INDUSTRIAL CANADA, G. H. Ansley, vice-president and general manager, gives the following information about the company's plans:

"The addition will be 72 ft. long, 42 ft. wide, two stories high, and will give us a building about 300 feet by about 42 ft., two stories high. It will give us better office facilities, as we employ about fourteen people in connection with the administration.

"We are very much cramped in manufacturing and the addition will permit us to run between 600 and 700 pairs of shoes per day, an increase of 200 pairs over our present production.

"For general information, we manufacture women's Goodyear welted shoes exclusively, and I think have perhaps the most highly specialized shoe factory in Canada. Our claim to be the largest exclusive manufacturers of women's Goodyear welted shoe, I think, stands good, and it is a great business slogan.

"We employ about one hundred and fifty people, have our own athletic association, orchestra, gymnasium, baseball club, etc."

Proposed Empire Preference

The budget proposals in regard to a tariff preference in respect of products of the British possessions imported into the United Kingdom are as follows:

Duties on foreign spirits to be increased from 1st Sept. by an additional duty of 2s. 6d. per proof gallon on enumerated spirits and on other spirits in proportion.

Wine, the duties to be modified from 1st September, as follows:

	Empire Wines Per gall. s. d.	Other Per gall. s. d.
In cask, not exceeding 30*	0 9	1 3
In cask, not exceeding 43*	2 0	3 0
In bottle—		
Still, not exceeding 30*	1 3	2 3
Still, not exceeding 42*	2 6	4 0
Sparkling	2 6	3 9

Tea, Cocoa, Coffee, Chicory, Sugar, Dried Fruits, Tobacco, Motor Spirit	Duties on Empire products to be reduced by one-sixth, from June 1st in the case of tea, and from September 1st in the case of other articles.
Cinema Films, Clocks and Watches, Motor Cars and Cycles, Musical Instruments	Duty on Empire products to be reduced by one-third from September 1st.

Tractor Plants for Medicine Hat

According to the *Calgary Herald* a deal was closed in April whereby Messrs. Martin and Phillips will manufacture the Stinson tractor in Medicine Hat for the western Canadian trade, and the Alberta Foundry and Machine Co. will develop a new tractor to be known as the "Canadian." The firm of Martin and Phillips is well-known throughout Alberta, states the *Herald*. They drilled most of the gas wells at Medicine Hat and Bow Island, and have made a large proportion of the well-drilling machinery in use throughout the west. They have been interested in the tractor field for some time, and Mr. Martin just returned recently from a trip to Minneapolis, where the deal was completed. Previously he had spent five months in the United States looking over practically every tractor made, and he not only visited the various factories, but went out into the country and talked to farmers who were using the numerous makes. His process of elimination gradually brought him to the Stinson, and it was then necessary to make a bargain with the manufacturers. Together with Mayor Brown and Industrial Commissioner Kellogg, he induced Mr. Stinson to come to Medicine Hat, and he was so pleased with the possibilities that a deal was finally consummated.

The Alberta Foundry & Machine Co. will not be ready to produce their "Canadian" tractor for awhile, but Martin and Phillips expect to be making a "Stinson" a day after July 1.

Catalogues Wanted in Palestine

A request for catalogues reaches the Association from Palestine through the medium of the Canadian Mission in London and the Canadian Trade Commission in Ottawa. It is the opinion of the former that a good opening for certain classes of Canadian products is afforded in this market. Following is a statement received regarding the situation:

"The Chief Administrator, occupied Enemy Territory Administration for South Palestine, desires to obtain as many catalogues as possible upon numerous import lines, all of which should find a profitable market in Palestine. Facilities for inspecting these catalogues will be offered to interested parties in Jaffa, Haifa, and Jerusalem, and it is conceived that they will tend in no small measure to the replacement of enemy importation by United Kingdom goods.

"The main object is to draw enquiry; the question therefore of uncertain catalogue prices, he states, should not debar the sending of trade literature. Actual prices and delivery can be settled by correspondence with the manufacturers and gradual substitution of newer catalogues.

"Catalogues in the three principal languages of the country—English, French and Arabic, are much appreciated, and were a great feature in the German pre-war trade propaganda.

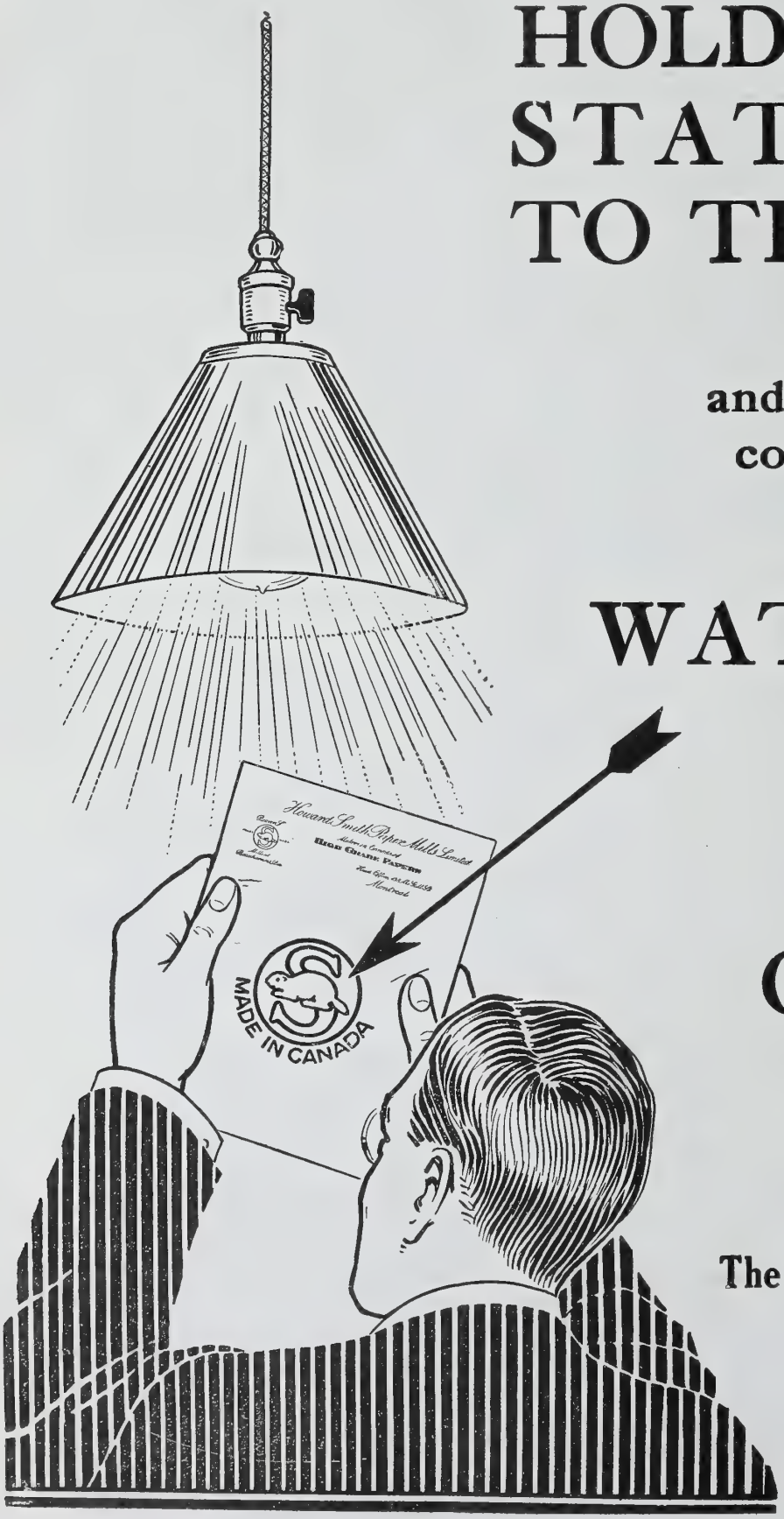
"The following are the principal imports required, and it is suggested that suitable firms should send their catalogues addressed to Headquarters, Economic Section, O.E.T.A., Jerusalem:

"Agricultural machinery and implements, flour mill installations, all kinds of motors, furniture, bedsteads, enamelware, pottery, glassware, lamps, stationery, musical instruments, typewriters, all kinds of tools, engines for petroleum and gas, perfumery, hardware, ironware, articles of construction, book-printing and book-binding machinery and types, boots and shoes, drugs and chemicals, brushes for painting, and household travelling bags and necessaries, locks."

Heavy Sheet Steel Goods

Catalogue No. 30 of the Steel Trough & Machine Co., Limited, Tweed, Ont., contains illustrated descriptive material about the various lines of heavy sheet steel goods made by this company. These include galvanized tanks for various purposes, steel shipping barrels, water troughs, cookers, chimney tops, culverts, chutes, sinks, baths, closets, lavatories, security boxes, evaporators, gasoline pumps, etc. Each line is thoroughly described and illustrated. Besides the goods catalogued the company makes many lines not shown and undertakes to produce sheet steel sundries for manufacturers that cannot be produced locally. The progress of this company from small beginnings ten years ago has been very creditable.

HOLD UP YOUR STATIONERY TO THE LIGHT



and see that it contains this

WATERMARK

It is your guarantee for

QUALITY

-Made-in-Canada—

BY

The Howard Smith Paper Mills
LIMITED

138 McGill St., MONTREAL

MILLS AT

BEAUHARNOIS, QUE. and CRABTREE MILLS, QUE.

DEPENDABLE SERVICE

JOINT GLUE

D AND P QUALITY

VENEER GLUE

ALWAYS UNIFORM
Samples and Prices on Request

DELANY & PETTIT, LIMITED
TORONTO

HIGH GRADE COATED PAPER

For the Best Results in Fine Screen Half-Tone and Color Work, use

"Red Seal" Coated Book

"Luxacoted Porcelain" Coated Book

TRADE COATED R PAPER MARK
REGISTERED

Made by

RITCHIE & RAMSAY LIMITED, TORONTO
CANADA

Western Selling Agents :
JOHN MARTIN PAPER CO., LTD., Winnipeg and Calgary

The Position of Maple Sugar Substitutes

Because of Misrepresentation these Products have been Barred from the Market—Their Desirability as Food Recognized—If Properly Labelled they Should be Permitted a Free Sale, thereby Helping to Lower the Cost of Living

By L. J. ROGERS
Assistant Professor of Chemistry, University of Toronto

AXIOM.—*To refuse a market to any wholesome and desirable food, is to increase the cost of living.*

IT is not denied that, under special circumstances, an artificial increase in the cost of living may be justified. But the circumstances must be entirely exceptional; and, in the case of an intelligent democracy, should be fully explained to the consumer.

Is this the case with maple syrup and maple sugar? An amendment to the Adulteration Act makes the sale of any substitute for these articles, or any imitation of them, illegal. No one can deny that wholesome and desirable imitations of, and substitutes for these articles are possible. Why are they not permitted a market?

A Simple Statement of Matters

There are many different sorts of flour—wheat flour, buckwheat flour, rye flour, etc., but when we ask the grocer for flour, without specifying the kind, he understands quite well that we want wheat flour.

Nature furnishes many kinds of sugar—cane sugar, milk sugar, fruit sugar, etc., but when we ask the grocer for sugar, not specifying the particular kind, he knows that we demand cane sugar. The proper name for this particular kind of sugar is *Sucrose*. Nature furnishes it in a great many plant juices, or sap. But there are only three plants which are worth while considering, when we regard the commercial article. These three plants exist so plentifully or are so easily cultivated, that it is found profitable to use them as sources for commercial sucrose. The three plants referred to are *Sugar Cane*, *Beets*, and the *Maple*. Because sucrose was first manufactured for commercial purposes from the *cane*, it came to be known as *cane-sugar*, and *cane-sugar* means the same as sucrose. But sucrose is a better word, because cane sugar implies that the article must be made from the sugar-cane, which is not true. The sugar that we get from beet juice and from maple sap is absolutely the same sugar which we get from the cane. Keep this in mind; and always speak of this sugar by its proper name, which is *Sucrose*.

Refining Processes Needed

But no plant juice furnishes sucrose only. In every sap, or juice, it is associated with other substances, and if we want pure sucrose, we have to employ what are called refining processes to separate the other substances. Simply boiling down the juice or sap will never furnish pure sucrose.

In the case of cane juice and beet juice, the other substances associated with the sucrose are such as give an unpleasant taste or flavor to the product of evaporation (called raw sugar). Hence we must of necessity *refine* the sucrose when we get it from these sources. But in the sap or juice of the maple tree, the associated substances have a pleasant taste and flavor, and we do not need to refine the raw sugar. Quite the reverse. By refining it we should lose the distinctive flavor of the maple, and obtain the pure, sweet sucrose, indistinguishable from ordinary granulated sugar.

It is most important to note that the only reason why we are willing to pay 30 or 40 cents a pound for maple sugar, while refined sucrose from the cane or the beet can be bought for 10 cents, is that we are willing to pay for the maple flavor. So far as the sugar itself is concerned, there is no difference whatever. Do not lose sight of the fact that the special value of maple sugar lies in its flavor, and in nothing else.

If then we could give the maple flavor to sucrose obtained from the cane or the beet, we should have an article absolutely identical with maple sugar, except in origin.

But we cannot get the true maple flavor, except from the maple tree. From guaiac wood, and some other sources, we can get a flavor that somewhat resembles that of the maple; but is quite inferior, as judged by most palates.

The true maple flavor, however, can easily be obtained from the maple sap; and, since the flavoring material increases in intensity as the season of sap production advances, it is found that the later runs of raw sugar are far too intensely saturated with this flavor, usually being so rank as to be unsaleable. This fact is quite well known to every farmer who makes maple sugar. Buyers in Canada and the United States have been for many years in the habit of buying sugar of the quality referred to, because they found that by dissolving it in a large excess of sucrose syrup, the sucrose being derived from cane or beet juice—they could give the maple flavor to the whole of the sucrose, and thus impart a sufficient flavor to three or four pounds of sucrose, from each pound of the raw sugar of the maple sap.

The Equal of True Maple Syrup

Of course the resulting sugar could not truthfully be called maple sugar—because most of its sucrose came from the cane or the beet. But, as far as food value is concerned, it was quite the equal of true maple sugar. And it could truthfully be named a mixture of the two sugars, or as sucrose flavored with the characteristic maple flavor. It met popular approval, as evidenced by the large demand for it; and only fell into disfavor because manufacturers, in their over-anxiety to secure a large market for it, offered it as maple sugar, which they had no right to do. Such misdescription fully warranted their punishment, and no right-thinking person, no intelligent consumer, will pity them.

But the article itself was a desirable food, and was an excellent substitute for the best grades of maple sugar, and could be manufactured to many times the extent possible with real maple sugar, made from the sap of the maple, and therefore restricted as to quantity by the amount of sap available.

Maple sugar (and syrup) is in demand throughout the whole of Canada; for that matter, over the whole American continent; and an increasing market for it is being developed in Europe. If the maple tree could be cultivated everywhere—or even extensively—the supply might increase

CO-INSURANCE

"Canadian" Appraisal Service affords the only safe method of estimating the amount of fire insurance protection required under the terms of the Co-insurance Clause. It also insures a quick and equitable adjustment of a fire loss. Our services are free to clients in connection with all fire loss adjustments on property covered by appraisals.

The worth of our Service in the adjustment of losses has been demonstrated time and again, and has saved many thousands of dollars to manufacturers.

Further information upon request.

CANADIAN APPRAISAL COMPANY LIMITED

TORONTO
Royal Bank Bldg.

MONTREAL
17 St. John Street

NEW YORK
Equitable Bldg.



McKINNON INDUSTRIES ST CATHARINES, ONTARIO CANADA

Are you, ***Mr. Manufacturer,*** satisfied with the **Quality** and **Delivery** of your Malleable Iron Castings?

Another satisfied customer writes us:

"Your service and material has been satisfactory for 1918 and we are very well pleased with both. You have at all times been able to give us the very best of castings and your service has been admirable.

We are only too glad to tell you this and hope that your other customers are as well satisfied as we are."

MAY WE EXPECT AN ENQUIRY FROM YOU?

McKINNON INDUSTRIES, LIMITED

St. Catharines, Ontario, Canada

with the demand. But the slow growth of the tree, and the limitations of climate, make this impossible. There are no producing maple trees in Alberta, Saskatchewan or Manitoba; and although some maples grow in British Columbia, the alternation of warm days with cold nights in springtime, which render possible the gathering of the sap in profitable quantity, is unknown; while in Ontario, the scattered maple trees furnish no more than a purely local supply. Many farmers are able to secure enough for their own tables, but production for commerce does not exist. The census of 1910 shows that of a total of about 10,500,000 lbs. maple sugar product in Canada, approximately 10,000,000 lbs. came from a limited area of Quebec—the so-called Eastern Townships and vicinity. Maple sugar is therefore a purely local industry; and any legislation which prevents competition with it enables a portion of the Province of Quebec to hold up the rest of the world for monopoly prices.

Discriminative Legislation

Surely, in the light of what has been said the consuming public has a right to protest against any such discriminative legislation. It has been shown that the special value of maple sugar is due to its flavor only. Let this be recognized, and let foods honestly flavored with the maple, and so labelled, have a free market. Even imitations of the maple flavor should be legalized, under the restriction that they are truthfully labelled, and make no claim to be actual maple products. No other course is consistent with fair play to the consumer. Nor is the rightful claim of the producer of maple products infringed. He is sufficiently protected by the special character of his goods, and by the Adulteration Act, which forbids false labelling, or misrepresentation of any kind. Nothing can be sold as maple sugar or syrup which is not actually such; but sugar and syrup flavored with maple, or imitations of maple sugar and syrup, truthfully sold as imitations, should be freely available to the public, being sold for what they really are.

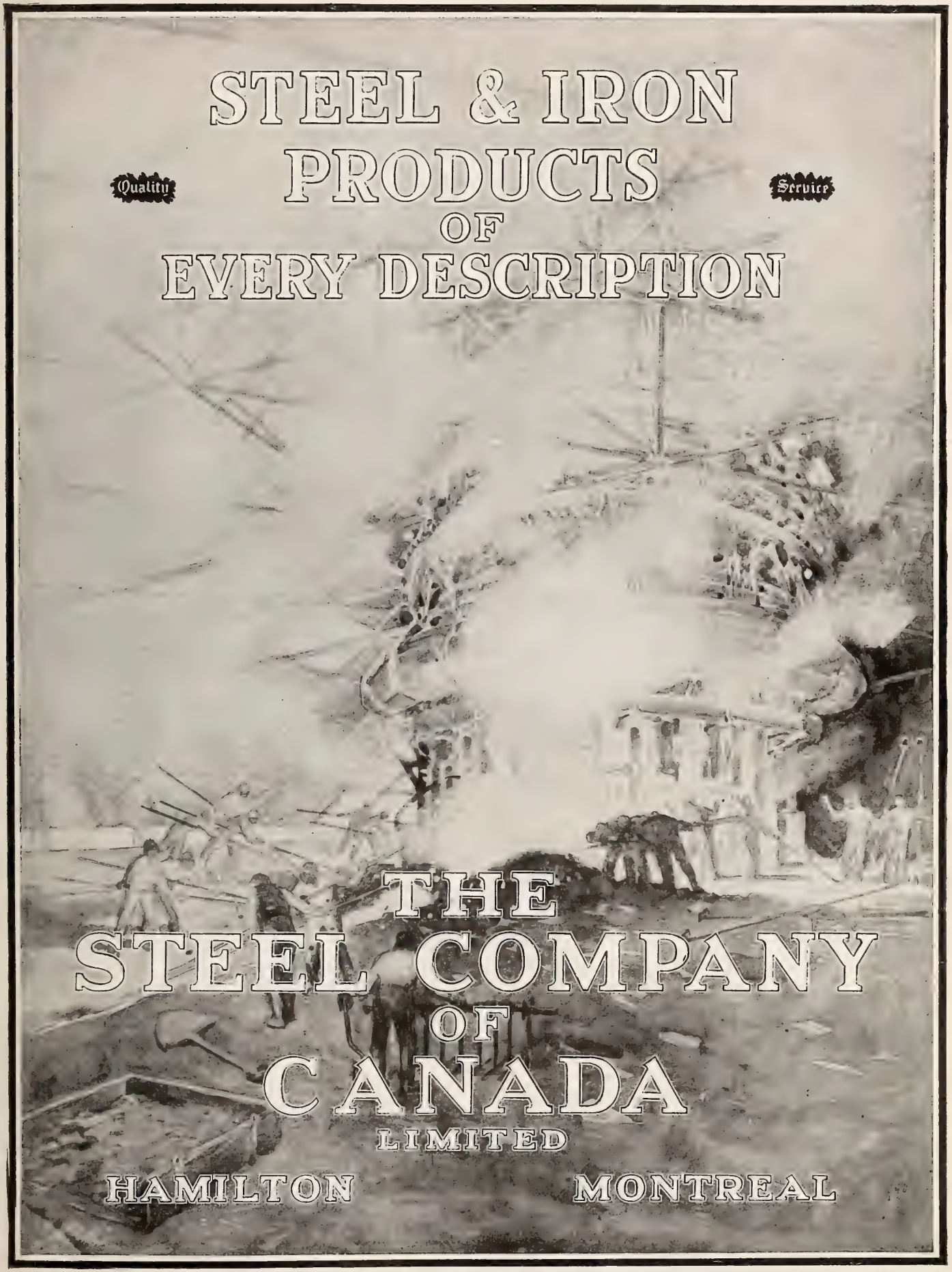
Offers Representation

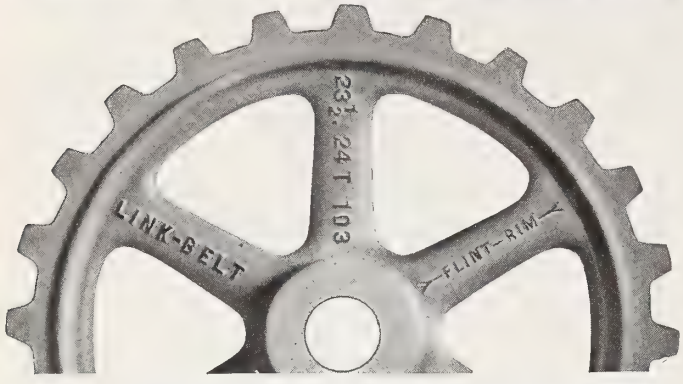
Experienced Agent is in Canada Looking for Connections with Canadian Manufacturers

An opportunity for Canadian manufacturers to secure representation in the old country is afforded by the presence in Toronto of Mr. James Arthur Brown, who is prepared to take on a number of lines on favorable terms. Mr. Brown is 38 years of age and has had fifteen years travelling experience both in the old country and throughout Canada. He is personally familiar with all the large commercial centres in England like London, Manchaster, Birmingham, and Sheffield. Mr. Brown is prepared either to centralize his work in London or else work from there. He invites correspondence from manufacturers desiring representation, and is prepared to interview any persons interested. At present he is making his headquarters at the Y.M.C.A., Toronto.



We are proud of the fact that beautiful buildings such as this—the Customs Building at Ottawa—stand on foundations built by us. It is also a point of pride that extremely unfavorable ground conditions, such as existed on this site, do not prevent us building a foundation that is absolutely reliable for any loading.


STEEL & IRON
PRODUCTS
OF
EVERY DESCRIPTION
Quality
Service
THE
STEEL COMPANY
OF
CANADA
LIMITED
HAMILTON
MONTREAL

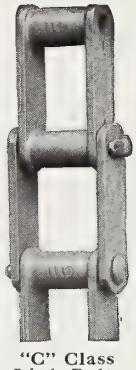


Link-Belt Means Freedom From Breakdowns



"H" Class Saw Mill Pintle Link-Belt

BREAKDOWNS are expensive. They mean expenditures for repairs and loss of time, labor, and output. The success and profit of each day's operation depends very largely on the strength and endurance of the power transmitting and material — conveying Link-elt employed in your mill.



"C" Class Link-Belt

LINK-BELT



"H" Class Refuse Link-Belt

has long been recognized as the standard form for conveying and power transmitting equipment. Its ability to successfully withstand undue strains and the wear and tear of years of service has earned for it the undisputable claim on leadership.

We show a few of the various types of Link-Belt. Our catalog shows many more.
Send for a copy.



Ewart Detachable Link-Belt

Look for this Mark on Every Link

It is your guarantee of service and satisfaction.

CANADIAN LINK-BELT CO., LTD.

Wellington and Peter Streets
TORONTO

Stock also carried at 1195 St. James Street, MONTREAL, Que.

Insuring Its Employees

Auto-Strop Safety Razor Company Adopts Plan Whereby It Insures the Lives of Employees

A plan, quite in keeping with the tendency of the times, is that just adopted by the Auto-Strop Safety Razor Co., Toronto, which has for its object the insuring of every one in the employ of the company.

Under the system, as explained by Mr. C. S. Stampleman, the general manager of the Canadian branch, the Auto-Strop Company undertakes to insure the life of each member of its staff and to pay all premiums in connection with such insurance.

The policies are graded in amount from $500 to $2,500, the value of each policy agreeing proportionately with the length of time spent by the recipient in the service of the company. Each employee is permitted to choose his or her beneficiary, and thereafter all responsibility in relation to the various policies is assumed by the Auto-Strop Safety Razor Company.

Manufacturing concerns are fairly numerous who have granted lately a shorter work day to their employees, but so fas as is known this is the first instance of an industrial organization in Canada insuring the lives of its members; although it is understood that the idea is more or less practised in the United States.

Offer Stock to Employees

How Swift & Co. are Encouraging their Employees to Become Shareholders

In making an issue of approximately $25,000,000 of new stock, Swift & Co., Chicago, are including employees as well as stockholders in their subscription offer. Under the plan adopted by the Swift directors the shareholders of record May 31, 1919, will be entitled to subscribe for one share of treasury stock to each five shares held on that date; the remainder of the stock in the treasury to be offered to employees at $100 a share on what will be known as the "1919 employees' stock-savings plan."

The plan has been evolved to encourage saving on the part of the employees and with the particular purpose of interesting in Swift & Co. stock those employees that are not now shareholders, especially the plant employees.

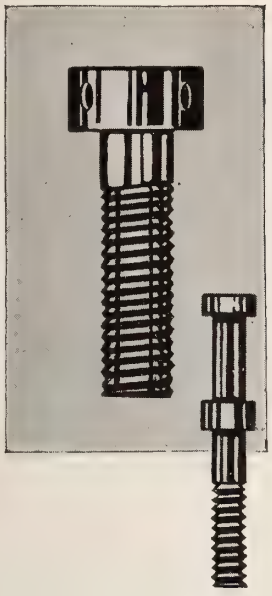
In order to participate in this plan employees must have been in the service continuously for not less than six months, but employees who have been absent with the colors are considered as being in continuous service. The amount of stock to be allotted to each employee will be fixed according to wages or salary, ranging from one to five shares. All employees of the company, both men and women, will be allowed the privilege of subscribing. It is estimated that approximately 10,000 employees will take advantage of this offer, which expires July 26, 1919.

Under the plan, the stock may be paid for by the employee on a basis of $10 a share down and a dollar a week per share, to be deducted from his salary. If the employee is paying for Liberty bonds, he may have shares reserved for him and not begin payment until after he has completed his Liberty bond payments.

The amount of stock to be allotted to each employee will be one share for those receiving up to $20 a week, two for those up to $30, three up to $40, four up to $50, and five over $50.

At the present time more than 5,000 employees of Swift & Co. are shareholders under a stock investment plan, which has been in operation for several years.

SHEET METAL STAMPINGS and AUTOMATIC SCREW MACHINE PRODUCTS



Government precision calls for work that is absolutely perfect in each detail. We have supplied that work, and our experts and modern machinery used in so doing now stand at our customers' disposal running with the same accuracy.

Years of experience have taught us how to discriminate in selecting our material so that the work produced is of the finest quality and workmanship, while our prices remain reasonable and popular.

We will be pleased to give you our estimate on your next order.

CARON BROTHERS
CARON BUILDING
233-239 Bleury St. - - MONTREAL

Canadian Carbonate Company, Limited

Offices and Factories:

HALIFAX, MONTREAL, TORONTO

WINNIPEG, VANCOUVER

■

Manufacturers of

"CROWN BRAND" LIQUID CARBONIC ACID GAS

"BEATTY"



Material Handling Plant has back of it 55 years of successful experience.

HOISTING ENGINES
STEEL DERRICKS
DIPPER DREDGES
CLAMSHELL BUCKETS
DERRICK IRONS
SUCTION DREDGES
etc.

Write us for Catalogue 21 and Prices

M. BEATTY & SONS, Limited, WELLAND

AGENTS:
H. E. Plant, 1790 St. James St., Montreal
R. Hamilton & Co., Vancouver
Kelley-Powell Ltd., Winnipeg
E. Leonard & Sons, St. John



HIGH-CLASS MADE-IN-CANADA

AIR COMPRESSORS

Send us your inquiries

HAMILTON MOTOR WORKS, LIMITED
HAMILTON CANADA

FORGED STEEL TOOLS

AXES, HAMMERS, WRENCHES

CANADA FOUNDRIES & FORGINGS, LIMITED
BROCKVILLE, CANADA

Relaxation of Control

British War Departments and Board of Trade Abolish Control of Sale and Distribution of Commodities

The British Board of Trade announces that all control of the sale and distribution of commodities formerly exercised by the Admiralty, the War Office, the Ministry of Munitions, and the Board of Trade, has been abolished or will cease on May 31, with the following exceptions: Clinical thermometers; Egyptian cotton (to be continued until July 31); flax and flaxseed; fuel and gas; glass; hay and straw; leather and leather materials; partial petrol orders as to vouchers and returns; petrol; pitwood, potash, timbred; tongsten ores; torpenutine substitute; and wool, limited control of Australian and New Zealand wool. Restrictions on imports and exports are not covered by this announcement. Relaxation of control of importation of certain cereals recently announced by the Commission of Wheat Supplies has been interpreted wrongly as entailing a revocation of grain prices. An order of the Ministry of Food states that the grain prices order which fixed the maximum prices for home-grown cereals is not revoked. The maximum price for barley which may be paid by a person licensed to purchase is 70 shillings per quarter. Purchases for seed purposes have not been controlled since January 1, 1919.

New Industry for Hamilton

Hoover Suction Sweeper Co. of Canada, Limited, Decides to Locate at this Point

After considering the merits of various industrial centres, officials of the Hoover Suction Sweeper Co., of North Canton, Ohio, have decided to locate their new Canadian plant at Hamilton. Heretofore the Hoover Company has had a small manufacturing plant at Windsor, from which point its Canadian business has been handled, but this will at once be moved to Hamilton, and as the company now plans to go after the Canadian and export business aggressively, it is the intention to erect a big modern plant at once. In fact, the Canadian general and sales offices have already been moved to Hamilton, temporary quarters having been secured at 20 South MacNab street, to be used while their permanent manufacturing plant and offices are being erected in the east end of the city. A site with a street frontage of about 600 feet, at the corner of Gage and First avenues, has been purchased, and within a few days work will be started on a series of model factory buildings, which will be the last word in industrial construction and an ornament to the district in which they are located.

The Hoover people lay claim to being the oldest and largest manufacturers of vacuum cleaners and suction sweepers in the world, their plant at North Canton being a large one and employing an army of skilled workers. The plant to be erected in Hamilton will be so built as to permit of considerable additions and enlargements, as it is the company's intention to provide for not only the Canadian trade, but also its export trade at the Hamilton works. The company already has a sales organization in Great Britain, and arrangements are being made for the transfer of the export business from the American to the Hamilton plant.

In charge of the company's Canadian activities is Thomas F. Kelly, who for the past six years has been commercial manager for the Dayton Power & Light Co., Dayton, Ohio. Prior to that Mr. Kelly was sales manager for the Cataract Electric Light & Power Co., in Hamilton, and was prominently identified with Hamilton industrial, commercial and social activities.

ONE of the most appealing arguments to business men is economy in business operation and management. You believe in efficiency and economy in your plant and undoubtedly have it in most of your departments.

But, do these two vital factors apply to your Heating System? G.F.E. Hot Water Heating Systems have proved time and time again that their installation in place of antiquated heating systems have saved large amounts of money.

Large heating projects for industrial uses are one of our specialties. Over fifty years of successful experience in this sort of work have given us valuable practical knowledge which is invaluable to firms with heating requirements.

The advantage of a wide range of temperature possible with this hot water system through the easy regulation of water temperature to conform with temperature outdoors is a strong point in its favor. Add to this the low operating cost of the G.F.E. Hot Water Heating System and our broad experience in this field and the fact that our expert engineers will make a preliminary study of your own heating problems without cost to you.

Is it not worth your immediate attention? We feel sure it is and that an inquiry into this on your part will be well worth the time involved in dropping us a line to-day,—now.

Canadian General Fire Extinguisher Company, Limited

TORONTO, ONT.—2440 Dundas St. West
WINNIPEG, MAN.—508 McGreevy Bldg.

MONTREAL, QUE.—10 Cathcart St.
VANCOUVER, B.C.—1140 Hamilton St

Quality Fittings, Valves and Supplies
We carry a complete line

Engineers and Contractors for the
Grinnell Automatic Sprinkler System

"We Specialize on Service"

Good Things from Other Magazines

The Building Up of a National Estate*

A Plea for the Making and Carrying Out of Definite Plans, not only for the Prosecution of the Practical Works to which the U.S. Government has Already Laid its Hand, but for the Development of all Possible Natural Resources—Its Application to Canada as well is Obvious

By HON. WM. C. REDFIELD
Secretary of Commerce, U.S.A.

EXPERIENCE in Congress and the Executive has taught me that it is very hard to get either concentrated attention to or sufficient appropriations for the practical work of the Government as distinguished from its political work. By "political" I do not mean partisan, but rather all those matters which come under the head of Government policy—matters of statecraft, of regulation, of the police power, etc. Of course these require thoughtful discussion and study, but there are also great practical services of as great, or perhaps greater, value to the country, which need more attention. In a factory one may debate principles so far as to neglect practice. We need not say less pro or con about the league of nations in order to have our coast properly surveyed. Let us discuss trust and anti-trust, but why not develop our wealth of nonferrous metals? Roads and tractors mean more to the country than many things which fill more pages. Forest fires cost lives and wealth, but we think about them less than of certain taxes over which we growl. We complain—and justly—over food prices, but no concentrated opinion gets behind Congress to insist, refusing denial, that the swamp areas of the country shall be drained and its arid lands reclaimed on a larger scale. We object—and justly—to advanced railway rates, but those who advocate the large development of our waterways find no universal body of opinion springing to their support. We spend—and properly—vast sums for war, but what would become of him who would urge Congress to give the price each year of a single small cruiser to the development on a solid basis of the country's foreign commerce? We pass with enthusiasm, after long debate, statutes which are restrictive or regulative, or which in one or another way express negations. We move slowly and with halting steps along affirmative lines. We do not like to pay high prices for coal, but no concentrated opinion insists that there shall be no further delay in putting our abundant water power at the public service. We do not seem to see the human wrong involved in forcing men to work in the dark bowels of the earth to extract fuel by hard toil while streams that offer light, heat, and power in the open day run wasted to the sea. We know that the beehive coke oven wastes vast quantities of products which we need for motors and other useful purposes, but few would respond to the suggestion that a public waste of this or any similar kind is an actual offence against the public weal which enlightened opinion would not permit to continue. We waste, in making lumber, more than half the values known to exist in the tree; yet we know perfectly well that our forest reserves are going fast and have their near limit. Indeed, a leading authority thus writes me:

> In the ordinary practice of the yellow-pine industry only about one-third of the entire tree reaches the market and two-thirds of the tree are wasted. It follows, therefore, that when the total annual cut produces 15,000,000,000 feet, board measure, of merchantable timber, twice as much other material derived from the same trees has been allowed to go to waste. The amount of this waste in the yellow-pine industry alone is enough to furnish raw material for the production every day of 40,000 tons of paper, 3,000 tons of rosin, 300,000 gallons of turpentine, and 600,000 gallons of ethyl (grain) alcohol. The potential values of these products are many times greater than the total actual values now developed by the industry.

Fail for Lack of Constructive Vision

Forest fires are preventable at an outlay trifling as compared with the loss, but still we seem to regard them as so nearly an act of God that it is more than doubtful if the necessary appropriations to stop them could be had for lack of a sufficiently developed opinion. Our public and industrial wastes are huge and costly—doubtless far more than sufficient to pay all our annual taxes and provide a sinking fund for our public debt. More paper stock of one or another kind is wasted every year than our mills consume, but I failed to get an appropriation of $25,000 to continue the Waste Reclamation Service. It may be of interest to note that the paper upon which this address was originally written was made from cotton linters, without the mixture of any other paper stock, but with the use of 10 per cent. of clay, 3 per cent. rosin size, and 1.75 per cent. alum. Industrial practices exist wasteful and costly almost beyond belief, which industries are willing to remove under the leadership of the Government partly by abandoning useless styles, sizes, and varieties of one or another product which have no public value and are instead a public loss; yet an appropriation for $100,000 to maintain the Industrial Co-operation Service, doing this and other equally important work, was declined.

The point I am urging and which I welcome this opportunity to urge upon thoughtful men is that we must, if we are to be righteous trustees of our great estate, make political policies practical in another and more thoughtful sense than that of the so-called practical politics of the past. Inheritors of a vast estate, perhaps of an unequalled estate, we are as a whole—no one party, or group, or section, but all of us—seriously neglectful of our property. We are hiding our light under a bushel. We have wrapped our talent in a napkin and put it away. We have done much and are

* Portion of an address before the Executive Association of Wholesale Grocers of New England, at Boston, April 17, 1919. Published in INDUSTRIAL CANADA by special request.



Ford Motor Co. of Canada, Ltd.
Ford, Ont.

Built by WELLS AND GRAY LIMITED
Engineers and Contractors

WE have prepared a new book showing photographs of the more important structures built by us during the past ten years.

Buildings of all kinds are shown in this book.

Copies may be had on application to

WELLS AND GRAY LIMITED

Engineers and Contractors

Branch Office:
Bank of Commerce Bldg.,
Windsor, Ont.

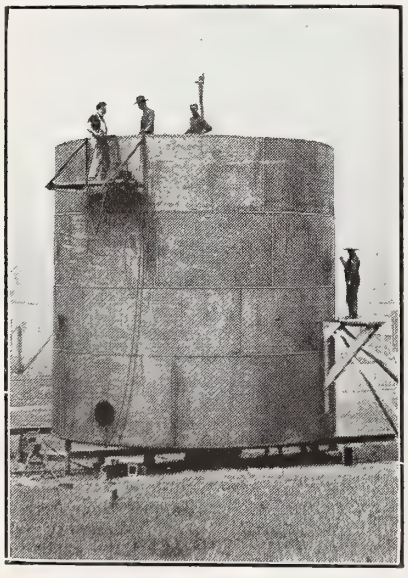
TORONTO, ONT.,
701 Confederation Life Bldg.



For Full Information Write for Catalog I

Canadian Mathews Gravity Carrier Co., Ltd.

PORT HOPE, ONT.



STEEL TANKS
for
Pulp and Paper Mills
Chemical Works
Oil Refineries
etc.

Structural Steel and Steel Plate Work

of every description

MacKINNON STEEL CO., Ltd.

SHERBROOKE - - QUE.

Montreal Office 404 New Birks Building

doing more, but as yet we have not visualized our opportunities. Enlightened men see them, but their voices are as those "crying in the wilderness."

Some of America's Undeveloped Resources

When the stress of war came we suffered for this cause. We were large users of dyestuffs and the largest producers of the materials from which dyestuffs were made. We had neglected to use the one to make the other. We confused cheapness with economy—a mistake not creditable to our national vision—and were dependent upon a foreign source of supply, which was first cut off by war and then became unfriendly. The same is true of optical glass and of other products. We had to send abroad during the war for manganese and chrome for our steel industries. I hardly like to think what would have happened had not the allied navies kept the sea safe for the movement of these needed supplies. We have them at home, but we had not thought sufficiently about the matter to develop them.

In the sea at your doors and all along our coasts are vast supplies of unused foods and other materials. I have in my office good shoes made from the skin of the dogfish and the shark and fine leathers made from other species. We have in the department a fine travelling bag made wholly from fish leather and I have ordered another for my personal use. Yet the effort to develop these supplies of food and leather and other materials, surely a practical work and one worth trying, met not only with a smile at first but with the active opposition of certain of the press.

We draw largely upon foreign sources of supply for ramie, hemp, and other fibres, but give comparatively little thought to the study and development of unused domestic resources of the kind. A year or more ago an investigator placed in our hands a number of specimens of unused American fibres in such condition that they were ready for spinning into yarns. These materials were tested at the Bureau of Standards and found satisfactory. I have not heard whether in any material measure they have come into use, but am satisfied that there lies here a neglected resource.

The osage orange growing wild in the South-west waited to find its place in the economic world until the stress of war cut off our foreign supply of dyes and then came into service in quantities and so marked the bringing into use of a resource theretofore wasted.

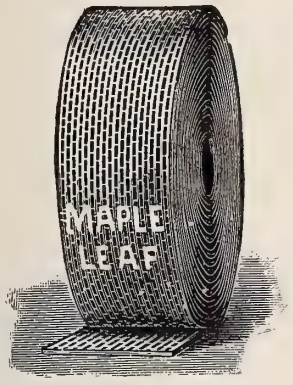
The chemical engineer knows very well that we are neglecting materials which if saved would add immensely to our resources, but, singularly enough in a people as wide-awake as we, finds, or did until recently find, an atmosphere of incredulity and almost of amusement at some of his practical suggestions.

Only under the stress of war did we undertake to make good from domestic supplies our shortage of potash or to follow the example of others in producing nitrates from the air to make us independent of foreign sources.

Lack of a National Programme

There is a definite failure to function on national development on a national scale. We have not as yet proved fully equal to the opportunities which Providence has placed in our hands. This is so completely the fact that men who advocate one or another project of development are suspected of a private interest or at least of seeking the expenditure of public funds for some purpose other than the public good. There does not seem to be abroad in the national programme of any party a controlling conception of America as a whole needing physical development; and few men would be so bold in the existing state of public opinion

Dominion Belting Co., Limited
Hamilton, Canada



SOLE MANUFACTURERS OF THE CELEBRATED

"MAPLE LEAF" BRAND

STITCHED COTTON DUCK BELTING—

STRONG DURABLE ECONOMICAL
TRUE RUNNING

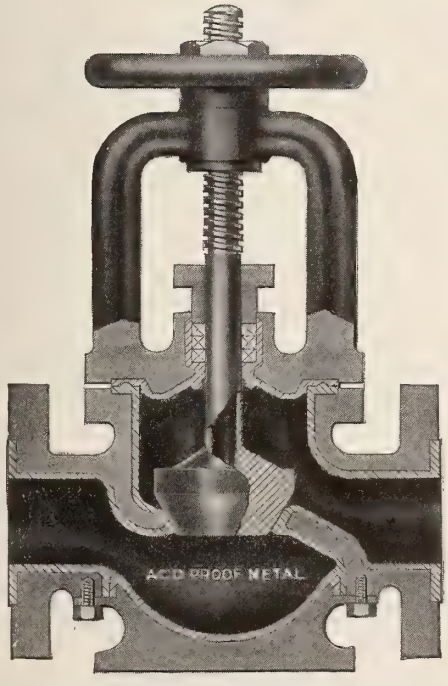
Being thoroughly waterproof it is equally good for running in wet or dry places. As a main drive belt, "MAPLE LEAF" cannot be excelled and for conveyors it is in great demand. A trial belt will convince you

MAPLE LEAF BELT DRESSING
The Best for all kinds of Belts

WRITE FOR SAMPLE AND PRICES

Quebec Branch: 51 Duluth Building, Montreal

Acid Resisting Pump Valves



We wish to call your careful attention to our line of Acid Resisting Pumps, Valves and Fittings, they are absolutely perfect in detail. In price comparison with Acid Resisting Bronze Valves, etc., they make an enormous saving in your initial cost.

For lining Acid Tanks, Agitators, and Sulphite or Sulphate Vats, Hoyt's Sheet Metal will give far better service than the ordinary Chemical Sheet Lead in the market. If you will write us stating conditions under which your Sheet Lead is operating, we would be pleased to go into the matter fully and will convince you of the economy of Hoyt's Sheet Metal.

Write for Catalogue

HOYT METAL COMPANY

FACTORIES:
London, England; Toronto, Canada; St. Louis, Mo.
New York, N.Y.

(or the lack of it) as to suggest the spending of the billions requisite for such development—few though they be in comparison with those expended for war and fruitful as they may be of prosperity, comfort, and peace to the nation.

We must not lose sight of the ground actually gained, or neglect to appreciate the fruitful work science has done through industry in developing many resources in the past and recent present. This progress has been worthy of all praise. Such additions to our food supply as the packing and sale of 30,000 cases of whale meat last year gives examples of what is possible. Many do not realize that the shark is finding a regular sale as a desirable food. Yet, on the other hand, a recent request for $17,500 to operate for a year a fisheries products laboratory, many of whose numerous results would each far more than pay the entire cost, met with failure.

Can be More Independent

We are being asked to invest American capital abroad in the development of the utilities of civilization in lands that are without them, and it is well that we should do this, because from these investments will flow not only income but business to keep our factories moving. Corporations, financial and otherwise, are being formed for the express purpose of developing other lands by American capital and energy. This movement is as necessary as useful, and I must not be understood as being other than in full accord with it. Side by side with it, however, should go a collateral movement which should have for its purpose the development of American resources and the making of our country, as far as possible, economically independent of the world. We shall never reach full independence—no one nation is ever given all the blessings of Providence—but we can become far more independent than we are, and our power of usefulness to the world will be enhanced in proportion as our own resources are made fully known to us and are placed fully at our service.

Fallacy of Conserving Without Developing

Conservation is an admirable thing, and none of us would be willing to take any steps which would weaken its principle or in any way interrupt its practice. But conservation can be of two kinds, and it seems almost absurd to create forest reserves, and, at public expense, maintain them, if we are at the same time to waste one-half of the value in every tree we use. So, in like manner, conservation of water powers is an admirable thing, and none would wish them dealt with other than for the public benefit, with strict supervision that no private or corporate interest secured undue advantage over the public interest. Yet it is going to the opposite extreme to allow the streams these many years to flow unused to the sea. The figure of our Uncle Sam would look somewhat strange, would it not, standing above a vast water power which he owned and requiring, lest it be wastefully used, that it be not used at all? Surely, between these extremes a way can be found if only public opinion has definite, practical bearings.

It is gratifying to learn that Maine has established a water-power commission, concerning which I note the language used in one of your papers, not that it is to conserve the water power but that it is "to develop and conserve for the public" the great water-power resources of that State. Here is the emphasis laid in the right way.

How long shall we be content to limit the draft of our lake vessels to 20 feet because the interlake channels and canals permit no more? Canada has in this respect been more far-seeing than we in the construction of her New Wel-

McClary's

Specialists in

HOTEL AND INSTITUTION KITCHEN APPLIANCES

and Manufacturers of the "FAMOUS" line of Goods including

Coal and Wood
FURNACES

Electric, Gas, Coal and Wood
STEEL AND CAST RANGES

Coal, Gas, Wood and Oil
HEATERS

ENAMELWARE, TINWARE AND OTHER KITCHEN WARE

LONDON TORONTO
MONTREAL WINNIPEG
VANCOUVER
McClary's
ST. JOHN, N.B. HAMILTON
CALGARY SASKATOON
EDMONTON



DRESSED LUMBER

SAVE MONEY by leaving the shavings at the mill. Buy Bathurst dressed lumber. There's a difference in weight varying from 350 to 800 lbs. to the thousand feet, between dressed and rough lumber.

We operate complete and thoroughly up-to-date planing and resaw mills. The way we keep customers proves conclusively that Bathurst Lumber, Bathurst Prices and Bathurst Service give real satisfaction.

Send us your name and address so we can put you on our periodical stock list mailing sheet.

Also KRAFT and UNBLEACHED SULPHITE PULP. Our output of each is 50 tons daily.

Bathurst Lumber Co.
Limited

Bathurst - New Brunswick

land Canal. I have long felt that the Connecticut River should be made navigable at least to Springfield, if not to Holyoke, and a great water power developed above Hartford which would be a blessing to many industries in central New England. Let us stop here a moment and think. New England brings, say, 30,000,000 tons of coal a year from distant points to move her industries. In the winter the sea voyage is precarious. At times the land transport has been congested. Yet she continues dependent on outside supplies, while for one or another reason many of her water powers go unused. This is not said by way of criticism upon persons or organizations, but merely to point out the fact that an ususued water power is a public waste, a definite loss to the community, and that a practical people ought not to rest until some means are found for getting it into service. Private ownership should in some way be conditioned upon use and, in so far as Governments are concerned, whether State or National, public opinion should insist upon action which should both develop and conserve.

It is, of course, true that the operations of our Government have become so vast that no one is able to keep in touch with them all, and the claims of various services are at times conflicting and perhaps in details excessive. Nevertheless it is true that there does not seem to exist any keen appreciation of the importance of developing promptly and generally the great estate, which is our country, in which lie resources that the nations need, but which are as yet all but untouched. The responsibility is divided. We say, "Lo here" or "Lo there." Part is for the States, part for cities, part for counties, part for the nation, perhaps most for individuals. There is no general plan, no attempt to grasp the whole problem. The rule is scattered sporadic effort, and therefore the result is in large part waste.

Affirmative Versus Negative Regulation

Even in peace times much of our procedure seems of a curiously negative character. We are very much accustomed to saying, "Thou shalt not," instead of pointing affirmatively the way to what should be done. Some have even gone so far as to urge that laws prohibiting combinations in restraint of trade apply to co-operation, with the Government as a party therein, in promotion of trade, which to the untutored mind seems very much like insisting that black is white. Take, for example, the principle of railway rate regulation: Has it not been negative in its character, intended to prevent some one from doing something? I have sometimes wondered what the effect would be if we were to try affirmations instead of negations. Suppose we were to say—assuming normal times to exist again—to a railway company: "You shall be given rates adequate to sustain your credit and to permit you borrowing what you need at normal rates. This shall be assured you. But in return for this there are certain things you must affirmatively do. You must extend your lines into such and such a territory at a certain rate; you must remember that you are a servant and not a master of the people and must serve without always considering in every detail transaction whether that immediate detail is directly profitable. So, having your credit assured, certain trains must be run where for public reasons they are needed, certain freight facilities shall be supplied, certain double-tracking or other improvement work must be done at such a rate. In other words, being assured of credit, develop your service from the public viewpoint." There are, of course, obvious difficulties, but the efforts toward negative regulation have not been very fruitful. Should not some form of affirmative regulation be tried instead?

"Develop America," New Slogan

On the whole my plea would be this: That public opinion should not only support but urge the Government to make and carry out definite plans not only for the doing continuously and on an adequate scale of the practical works to which the Government has already laid its hand; but that there should be adopted a definite policy, with the requisite funds for carrying it out, whereunder the national domain, arid or swamp, mine or well, whether in the continental United States, Alaska, Hawaii, or Porto Rico, should have its possible resources ascertained and steps taken to their development—this to include our transportation systems, our cable facilities under seas, our waterways, our mines and supplies of oil, our timber reserves, our coast surveys, the resources of our fisheries, the reclamation of waste lands, the checking of industrial wastes; in short, a forward policy of, "Develop America."

RIDOUT & MAYBEE
Solicitors of Patents
Counsel, Solicitors and Experts in
PATENT SUITS
Agencies in the leading countries of the World.
EDWARD MAYBEE, Mech. Eng. J. F. EDGAR, Counsel
KENT BLDG., YONGE STREET, TORONTO

CANADIAN COLLAPSIBLE TUBE CO., Limited
MANUFACTURERS OF
" Premier " Pure Tin, Plain and Decorated Collapsible Tubes
321 RICHMOND ST. WEST - - - TORONTO

Growth of Jap Industry

Enormous Expansion is Reported During the Five Years from 1914 to 1918

The expansion of industry in Japan has been so great during the World War that the industrial and commercial promotions in 1918 were nine times the volume of those for 1914. The five-year period shows an increase from an annual volume of under 200,000,000 yen in both new enterprise and extensions of going concerns, 1914, to more than a billion in both fields in 1918.

	New Enterprises Yen.	Expansion of Old Yen.
1914	190,679,000	161,736,500
1915	177,447,100	223,773,400
1916	611,360,700	489,257,550
1917	1,222,164,500	885,212,000
1918	2,004,825,000	1,175,182,000

An analysis shows that in the second year of the European war the promotion of new industries fell off considerably, although old companies appreciably extended their capital. These were the basic industries of peace times.

In 1916 and the succeeding years, the peace industries did not keep up their enlargement. The war babies drew the capital of the country, mining, shipbuilding, and such war-stimulated fields as the textile, machinery and other manufacturing industries. The banking interests in Japan also began to reflect the new prosperity coming to the country, themselves being stimulated decidedly.

The peak of the abnormal acceleration of Japanese business was reached in 1917, as the upward rush of expanding industry slackened decidedly in 1918 proportionately, although the actual volume still grew.

The Hamilton Bridge Works Co. Limited

HAMILTON, - ONTARIO

ENGINEERS, MANUFACTURERS and CONTRACTORS

Steel Railway Bridges
Steel Highway Bridges
Steel Buildings
Steel for Ships
Steel Turntables
Steel Trusses and Columns



Capacity
36,000 tons

5,000 tons of Standard Shapes of Structural Material in our yards for immediate shipment.

Enquiries solicited

The above is a building recently erected for the Steel Company of Canada at Hamilton, Ontario





GREAT BRITAIN'S TRADE BALANCE

Great Britain has to face an adverse trade balance estimated at £680,000,000 per annum, as against a favorable balance of about £226,000,000 in 1913. The volume of production must be increased to the value of at least the former figure before the country can ride on an even keel.

(From Barclay's Bank Review.)

During the last month certain significant figures have been published. In the first place, the Board of Trade returns for January reveal a somewhat alarming increase in our adverse balance of trade. Side by side with this unfavorable feature, unemployment is increasing substantially. A third fact, which it is well to consider in conjunction with the two already mentioned, is that taxation is now on such a high basis that a record has been created—no less than £34,034,000 having been received in one week. Despite this the net result of that week's working was to increase the national debt by approximately £3,500,000.

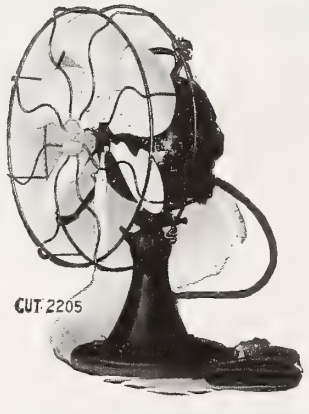
Nearly four months have now elapsed since the armistice was signed, and as yet there is little tangible evidence of a return to normal conditions. Our adverse balance of trade for the one month amounts to £82,614,754, or at the rate of £991,377,048 per annum. For the twelve months ending December 31, 1913, the excess of imports over exports amounted to £134,000,000, this difference being offset by the sums accruing to us as interest on foreign investments and by payments for services, such as shipping, insurance, banking commission, etc.

Before the war it was estimated that our "invisible exports" amounted to approximately £360,000,000 per annum, the principal items being interest on foreign investments, about £200,000,000, and freights due to us on foreign account, about £130,000,000. Our apparent adverse trade balance for 1913 of £134,000,000 was thus in fact a favorable one of £226,000,000, this sum roughly representing the amount of capital which in that year was sent abroad for investment.

Figures Quoted Are Approximate

These figures are of necessity approximate, but they are sufficiently accurate for ordinary purposes. When, however, an attempt is made to estimate the present volume of our "invisible exports," the difficulty of obtaining anything like accurate figures increases enormously. In the matter of pre-war foreign investments, it has been estimated that we still own some £3,000,000,000, the interest on which, on a 5 per cent. basis, amounts to £150,000,000 per annum. On the assumption that the sums we have borrowed abroad since the war are approximately offset by the loans which we have made to our allies and to the Dominions, that the reduction in the total of the tonnage available for foreign account caused by losses and government charters is offset by increased freight rates and that receipts for other services remain unaltered, then the total of our "invisible exports" would be reduced by £50,000,000 to £310,000,000 per annum.

It is, however, doubtful whether the value of our "invisible exports" can be estimated at so high a figure; but, even assuming they do amount to as much as £310,000,000 per annum, our adverse balance of trade is still at the rate of some £680,000,000 per annum, as against a favorable balance of about £226,000,000 in 1913. In other words, the volume of production available for export must, on the basis of present prices, be increased to the value of at least £680,000,000 per



EMERSON FANS

GUARANTEED for 5 years. Consume less current than any other high-grade fan on the market.

The Emerson Fans are very powerful and quiet running. The oscillator types are exceptionally well built and embrace many features not found in other makes. The oscillating fans can be operated at any angle and the oscillating device regulated to three speeds. Extra heavy blades are mounted on these fans and of special shape to produce greatest breeze.

We carry complete stock all sizes for direct current as well as 25 and 60 cycle circuits. Catalogue and prices sent on request.

Distributors of Electrical Supplies

McDONALD & WILLSON, Limited

347 Yonge Street - Toronto



Manufacturers, PREVENT Big Fires by "nipping them in the bud," with

"IMPERIAL" FIRE EXTINGUISHERS

(Every "IMPERIAL" bears the Underwriters' label)

If your factory burns, how will you fill orders during the long period of rebuilding? How will you hold your customers? How will you hold your employees? Your ***Insurance*** won't do all this!

Every Insurance Company makes an allowance on the premium rate for the installation of APPROVED Extinguishers.

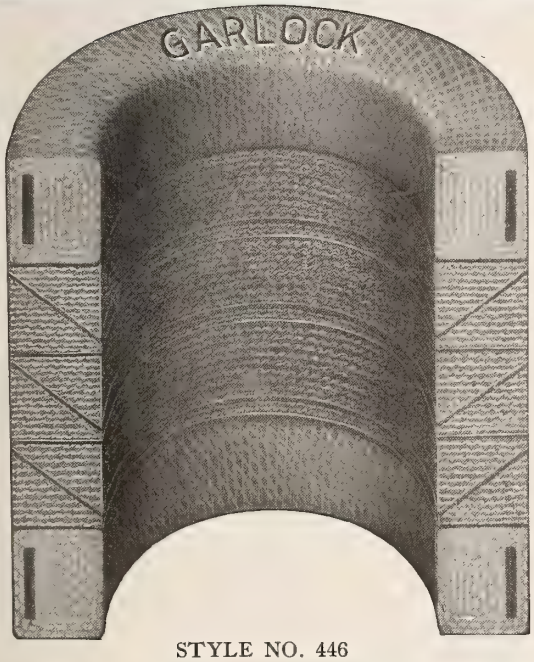
Your Insurance Agent can tell the exact amount an "IMPERIAL" will save you.

"Put the Fire out before it Puts you out"

Send for Booklet and Prices

The Booth-Coulter Copper & Brass Co. Limited

115 Sumach Street • TORONTO, Ont.



STYLE NO. 446

FOR PACKING

High Pressure Steam Rods
Use Garlock Style Number 200

Medium Pressure Steam Rods
Use Garlock Style Number 446

Low Pressure Steam Rods
Use Garlock Style Number 333

High Pressure Steam Joints
Use Garlock Style Number 950

Ordinary Steam Joints
Use Garlock Style Number 22

Worn or Scored Piston Rods
Use Garlock Style Number 336

Cold Water Piston Rods
Use Garlock Style Number 99

Inside Packed Plungers
Use Garlock Style Number 260

These packings are guaranteed to give satisfactory service under the above conditions.
Write for catalog.

The GARLOCK PACKING COMPANY, Hamilton, Ontario

Branches:

Calgary, Alta., 211 8th Avenue West
Montreal, Que., 409 Shaughnessy Bldg.
Winnipeg, Man., Galt Bldg.
Toronto, Ont., 404 Continental Life Bldg.

Jas. W. Foley & Co.
POTTERS
ST. JOHN - - N.B.



Stoneware, Rockingham Ware, Flower Pots, Stove Linings, Etc., Etc.



Maples Limited
Manufacturers and Refiners
TORONTO CANADA

annum before we can ride on an even keel, or by something in the neighborhood of £900,000,000 before we regain our pre-war position. Alternatively, the volume of our imports must be reduced.

This, substantially, is the trading position at present, and although its solution cries aloud for increased production, yet the percentage of unemployment is increasing. To a large extent this is unavoidable, for even the most sanguine could not have anticipated that an organization which for over four years had been deeply committed to war work could be converted to peace production without a breathing space. Similarly, the demobilization and absorption into industry of a great army must of necessity take time. Nevertheless, four months have elapsed, and still amongst almost every section of the community there is evident a tendency to mark time, and while this continues our external indebtedness is increasing.

Trade Balance Must be Paid

Ultimately our adverse trade balance will have to be paid for, and presumably paid for in goods. The longer settlement is delayed the greater the probability of the goods we have imported at high prices having to be paid for with goods which have fallen in value, or in other words, of our finding that, volume for volume, we have made a bad bargain and paid dearly for avoidable delays.

Probably the chief reason for the fact that more real progress has not been accomplished is the uncertainty as to the labor position, and as to government action in regard to certain vitally important questions, for nothing militates against business more than uncertainty.

The question of excess profits duty is regarded as one of very real importance. So much is this so that an influential deputation waited on the Chancellor of the Exchequer to advocate its removal, and he is now engaged in considering the whole question. A decision would be helpful, for the tax is an arbitrary one, and it is thought that a substantial reduction would encourage and stimulate industry and by increasing production create a more genuine and healthy basis for taxation. It should also tend to lower prices—an important factor both in obtaining foreign markets and in improving conditions at home.

Uncertainty of Price Levels

The uncertainty of price levels also operates against enterprise, as traders are naturally anxious to avoid the possibility of holding large stocks on a falling market. Broadly, however, it may be taken as reasonably certain that the world-wide inflation of credit, which is undoubtedly one of the primary reasons for the higher level of prices, will tend to sustain them at well above pre-war levels for a considerable period. In the case of certain commodities urgently needed in war but in lesser demand in times of peace, substantial downward movements have already been registered, but the goods for which the depleted markets of the world are waiting are in a different category, and although there may, and probably will, be a downward rather than an upward tendency, yet this movement is likely to be a gradual one. Nevertheless, the position is difficult, and manufacturers would be better able to estimate the probabilities if the government policy were definitely known as regards such questions as dumping, the fiscal policy, the deflation of currency, etc.

"Put it on Wheels"



Truck No. 820

When you buy a Machine for your Factory, the chief consideration is that it be strong enough to meet your maximum requirement.

This same point should be your chief consideration when buying Trucks.

To enable buyers to purchase Trucks intelligently, we state in our Catalog the load capacity of each Truck, ample allowance having been made for the abuse Trucks receive.

Catalog mailed at your request.

THE W. S. MAHAFFY CO.

Manufacturers of Factory and Warehouse Trucks

COR. GLADSTONE AND TRAFALGAR AVENUES **TORONTO, CANADA**

YOUR BUSINESS— AND OURS

The return of the country to a peace basis and the opening of the markets has a direct bearing on your business and on ours.

You, a manufacturer, are faced with new problems—more efficient factory operation, new processes, material and by-product utilization, new products and new supplies.

We, an organization of practical industrial chemists, present the means of solving these problems.

A staff of technical men familiar with the practical and the commercial features of your problems—fully equipped laboratories and technical resources—will assist you in a solution of your difficulties. All information given by you is confidential.

No obligation incurred by laying before us your problems. We will write you fully regarding any inquiry.

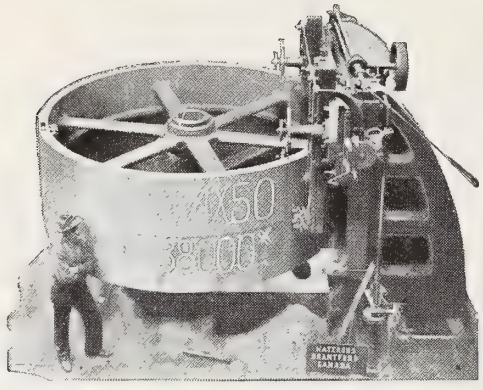
THE LARGEST AND BEST EQUIPPED COMMERCIAL LABORATORIES IN CANADA

MILTON HERSEY COMPANY LIMITED

INDUSTRIAL CHEMISTS, ENGINEERS AND INSPECTORS

MONTREAL WINNIPEG

CASTINGS



We can supply Grey Iron Castings up to 20 tons, also Brass, Bronze and Aluminum Castings, either rough or finished. If your castings are made by us, you may be sure of their strength, smoothness, and uniformity of texture, as we analyze all materials to ensure a perfect product. Let us quote on your next casting work—no matter what size.

Waterous
BRANTFORD, ONTARIO, CANADA

STRUCTURAL STEEL
and
BRIDGE BUILDERS



We build and erect all kinds of Structural Steel, Bridges, Roof Trusses, Bank and Office Railings, Stair Work, Elevator Grills, Fire Escapes, etc.

Over 5,000 Tons in Stock of Beams, Column Sections, Angles, Tees, Plates, Bars, Checkered Floor Plates, etc.

McGregor & McIntyre, Limited
1139 SHAW ST. TORONTO, CAN.

SWAPPING IDEAS WITH MANAGERS

The following extracts from interviews with business executives are taken from the notebooks of several journeys. They indicate in some measure the kinds of problems that leading executives are giving their thoughts to. They also indicate how these problems are being met by these men.

By ALFRED PITTMAN.
(From "System.")

"To assume that you can solve with dollars any more than a tiny fraction of the problems that come up in dealing with social groups, is—is to be a damn fool."

The speaker was a manufacturer, the head of a company that employs 3,000 people.

"I don't mean that the dollar part doesn't have to be all right. It does—or it will raise the dickens sooner or later. But it is never more than part of the solution; and the higher up in the organization you get, the smaller the part it is. One district manager, for instance, wants to be moving; he begins to feel after awhile that he has worked a place out, and that if he is to progress he must go somewhere else. Another man likes Detroit, say, and wouldn't be happy anywhere else, no matter what his income would be. You have to take those two men's inclinations into account. One of the best compensations for them is to be living where they want to live.

"Take a man with two small sons. Do you suppose the main thing with him is whether he is getting $2,500 or $3,000 a year now? Not a bit of it. He's thinking more about 15 years from now. The boys will be wanting to go to university then. The father will be at an age when new jobs are harder to get into if the one he has isn't satisfactory. What is the company's record for dealing with men who are in the position he will be in then—and in the years between? That is what he is thinking about. And nothing you can do with dollars alone just now will entirely satisfy him."

Using Dollars the Wrong Way

"I'll never forget how we bungled a situation once by using dollars the wrong way," said this same manufacturer. "We went to great pains to build up a suggestion system, and to get all departments to contribute. We said that we would pay whatever the suggestions were worth. In practise, ideas that weren't of any value at all from the profit point of view, but perhaps saved someone a little trouble, we paid for at the rate of a dollar or two each.

"That went very well among the factory workers. But when we sent the first dollar to a salesman in the New York office—from which we had been especially anxious to get suggestions—it absolutely stopped suggestions from there, and we were a year and a half getting them started again. The salesman was laughed at when his dollar came. It seemed petty.

"We now have a medallion of the barn in which our business started, which we send out sometimes as a reward for suggestions. It costs hardly more than a dollar. Yet some of the New York salesmen have been glad to get it.

"The fact is, you don't care so much for suggestions from a man who makes them for money alone. And that is more or less true of all personal services."

I had talked most of the morning with the head of an organization numbering over 2,000. We were in his office

ALCOHOL



Plant of Canadian Industrial Alcohol Company Limited, Corbyville, Ont.

With a capacity of 450,000 (proof) gallons per month we are the largest producers of Alcohol in Canada.

Manufacturers of vinegar, perfumes, essences, pharmaceutical preparations, etc., are invited to write us for prices of Alcohol suitable for their particular line of business.

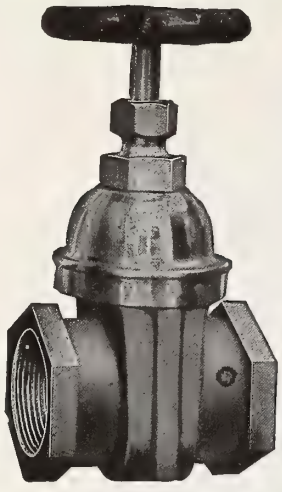
We make a special feature of contracting for the requirements of manufacturers for the year or season, thus providing not only a uniform cost but also a steady supply as needed.

Those who are using Duty Paid Alcohol in their manufacturing processes would do well to consult us with a view to using it "In Bond," thus avoiding the use of two-year-old Alcohol. Under the rules and regulations of the Department of Inland Revenue, newly made Alcohol may be used "In Bond." This Alcohol is much cheaper than two-year-old.

METHYLATED SPIRITS or Denatured Alcohol is sold only by the Department of Inland Revenue, Ottawa, Ont., but any other kind of Alcohol may be secured from us.

CANADIAN INDUSTRIAL ALCOHOL COMPANY LIMITED

MONTREAL, QUE.



HERE IS A

Brass Gate Valve

You will find it always made from HighGradeSteam Metal and beautifully finished.

They are not made of one quality this year and another next. Always reliable and worth the price you pay.

The Kerr Engine Co., Limited

VALVE SPECIALISTS

WALKERVILLE - ONTARIO

BOILERS



STANDARD RETURN TUBULAR BOILER

We manufacture Horizontal Return Tubular, Vertical Tubular and Locomotive Type Boilers, also Smoke Stacks, Breechings, Steel Tanks, Penstock and Steel Plate Work of every description.

Canadian Builders' Keystone Traction Shovel
Model 4

Send us your inquiries

Engineering & Machine Works of Canada, Limited

ST. CATHARINES, ONTARIO

Eastern Sales Office: HALL MACHINERY CO., Sherbrooke, Que.

adjoining the general offices and the works, and we had not been interrupted once.

"The work I set for myself when I took this place," he said, "was to organize myself out of work; and you see how I have succeeded. There is someone out there who can handle every routine thing that comes up, even the routine of financing. I am entirely free to deal with questions of policy, and emergencies, and to look about and prevent emergencies.

Picking Executive Types

"The most important job a manager has—I had almost said his only job—is to choose out of the mass of men whose talent is only for work with their own hands, those who can do the various kinds of executive work that the business requires, and to train and place them. As he succeeds in that, he works himself out of work."

"How do you pick the executive types?" I asked this man.

"There is no sure way that I know of. All the judging of men that I have ever seen was just tentative—when it wasn't foolish. But there are certain signs that are worth following up.

"If a man has poise, speaks in a way that induces action, and has judgment, he is a pretty good bet, especially for positions in which he will chiefly have to carry out the orders of others—for foreman, for example, or perhaps manager of a department. You can often sense these qualities when a man first comes into your room, or when you first see him at his work.

"There's a lot of this kind of talent, though, lying around latent. The men themselves don't know they have it, and you could never tell it by looking at them. Sometimes you can get a clew to it by asking the men if they would like to be foremen—and a still better clew by asking them why. The desire for leadership may indicate a talent for it, although the rule is by no means infallible. Nor is it certain, when a man is afraid to try leading at first, that he has no talent for it. Sometimes an intelligent fellow needs to be jarred loose.

"The surest way of uncovering the talent is the way they used in the officers' training camps—letting each one in the squad take his turn at leading it awhile. The plan is often practical in business during vacancies or absences.

The Faculty for Planning

"But if we look only for 'snap and precision,' poise and motivating speech, we are apt to overlook some of the best executive ability. These qualities are, of course, valuable for all grades of executive work. But in the higher grades, those in which orders are formulated as well as carried out, another quality assumes a greater and greater importance, and that is constructive imagination—the faculty for sound planning.

"This is the pearl of great price among executives; and it sometimes appears in men in whom some of the most striking qualities of the other type of executive are missing—as in General Homer Lea, who was a cripple; Napoleon, who was undersized; and Moses, who was 'slow of speech.' This quality betrays itself not so much in physical characteristics as in an energy for accomplishing more and accomplishing it in a better way.

"A man with that sort of zeal is always worth watching."

" . . . Sometimes an intelligent fellow has to be jarred loose."

Here's how another executive, the vice-president of an internationally known manufacturing business, spoke to that text. I hadn't proposed the text. We had been talking about



They will fit your present frames.

4,000 USERS OF

Chapman Type Ball Bearings

are saving money on power consumption, lubrication, labor and general factory upkeep.

The double row of extra large balls of the Chapman provides double capacity for service.

You can't help saving 15% to 40% on your power and 95% on lubrication with no upkeep cost whatever.

Catalog 3B gives the reasons why

CHAPMAN DOUBLE BALL BEARING CO.

339-351 Sorauren Ave., TORONTO **408 Shaughnessy Bldg., Montreal**

TRANSMISSION BALL BEARING CO., Buffalo, N.Y.

Dominion Copper Products Co., Limited

Manufacturers of

Seamless Brass
Bronze and
Copper Tubing

in all commercial sizes and gauges

Office and Works: LACHINE, QUE., CANADA

P.O. Address: MONTREAL, QUE. **Cable Address: "DOMINION"**



W. C. Macdonald, Reg'd
Incorporated
MONTREAL - CANADA

Better Lubrication
For Factory Engines

Here is Scientific Refining combined with Scientific Distribution—



Maple Leaf Valve Oil

mixed with the steam and spread in an even, thin *efficient* film in valve and cylinder by the En-ar-co Atomizer.

A guaranteed saving of from twenty-five to fifty per cent in cylinder oil consumption results from the use of Maple Leaf Valve Oil.

That's economical as well as better lubrication.

And the Atomizer is FREE. Write to us.

Canadian Oil Companies, Limited
1296 Excelsior Life Bldg., Toronto, Ont. 141A

where good executives come from, and how they sometimes come; and the manufacturer was making his own point.

"The manager of one of our branch stores," he said, "used to be a bookkeeper in the home office. He got $75 a month, and as bookkeepers' pay went then, there wasn't much chance of his getting more. I knew him pretty well—it was when the business was small, and I knew most of the men pretty well—and I went to him one day and told him he was trying to go up the wrong road. I said it was a blind alley, and would never get him anywhere. Where he ought to be, I told him, was out selling. That was where the big opportunities were.

"'We've got a territory open now,' I said, 'and I'd like to see you try it.'

"He thanked me and asked me for time to think it over. The next day he told me he'd rather not make the change.

"'I'm married,' he said, 'and I guess I'd rather have a small thing that's sure than a big one that isn't. I don't know whether I can sell or not, but I do know I can keep books.'

"I didn't argue with him. But I went to him again after a few weeks.

"'You're all wrong about this,' I told him, 'and I'm so sure of it that I'm going to guarantee you more than you are making now, with the chance of the commissions to boot. And if you don't like it after you've made the trial, you can come back to your old job.'

"On those terms he tried it. He had a pretty rough time for a couple of weeks. Then he got some orders, caught the knack, and began to have a good time and do very well. He's no great star, but he is a good store manager, and draws five or six thousand a year."

Building up Good Will

I went to see the head of a large private business who for the time was in charge of a government office in Washington. In the outer room I was received, not by an office boy or a telephone girl, as, of course, I had expected, but by an elderly southerner; and he attended to me so courteously and capably that I afterward asked his chief about him.

"He's one of my good will builders," said the chief "People get their first impressions of us in that room. If they are badly treated there, they are just that much harder for us to do business with. And even if we do finally satisfy them, the first impression lingers, and they are less likely to think favorably of us when they go away. So I have tried to have the receiving done as well as possible.

"When I first came here, this man was working as an accountant. He didn't like the job or do especially well at it, but I noticed his happy way of meeting people. I told hm how important I thought the reception work was, and asked him if he would like to try it at the same salary, with the chance of an increase later. It was fancy salary for the job, according to the old office standards, but he has saved us a good deal more than enough trouble to pay for it.

"In my own business," the man went on, "one of the members of the firm receives the visitors. The boy at the door has instructions to show them all directly to his office. He can tell better and more quickly than any one at the door could, whom the visitor should see, or whether he should see any one. There is no fumbling of callers from office to office. Time is saved, and a good impression is left on the visitor.

"We have made it a special rule also to be courteous to the salesmen who call on us. They are more or less used to



"MORROW"

Whenever you see this name on an original container of Set Screws, Cap Screws, Twist Drills, Files, you know that these manufactures are produced by a firm of highest integrity, and that what you buy from them is always the best of its kind obtainable anywhere.

"These Lines are Carried by Reliable Jobbers"

John Morrow Screw & Nut Company, Limited

INGERSOLL ... CANADA

ALWAYS SPECIFY "MORROW'S"

Made just a little better than seems necessary



What's the Use of Fire Pails After the Fire Has Taken Place

It's prevention you want, and you get full measure of prevention when you install

Eddy's Indurated Fibreware FIRE PAILS

They're moulded, pressed and baked to cement-like hardness and their glass-like surface (baked into them not painted on) renders them absolutely impervious to acids. Being moulded of one piece they simply can't leak, and their rounded bottoms assure them being in their proper place when wanted in emergencies.

A MAXIMUM OF PROTECTION AT A MINIMUM COST

Ask anyone who has used Eddy's Indurated Fibreware Fire Pails what they think of them.

THE E. B. EDDY COMPANY, LIMITED

HULL . . . . . CANADA

MALLEABLE IRON
CASTINGS

HIGH TENSILE STRENGTH

GALT MALLEABLE IRON CO.
LIMITED
GALT ONTARIO

ESTABLISHED 1850

DID YOU EVER NOTICE

that jarring, grinding noise in your machine shop caused by the metal gears?

Wouldn't you like to stop that noise? You can do it by using

NEW PROCESS GEARS
RAWHIDE PINIONS

They last indefinitely too

Ask us about it?

R. GARDNER & SON, LIMITED
Nazareth, Brennan and Dalhousie Streets
MONTREAL

the cold shoulder, and when any one goes out of his way to be cordial, they remember it, and speak about it as they go around. Salesmen are the great propagandists. They give their views of people and things, in smoking compartments, hotels, their customers' offices, wherever they go. We are always coming across the good effects of our policy with them—sometimes in the most unexpected places.

Treating Salesmen Well

"We try to build good will within our organization in much the same way. When one of our salesmen comes to the home office, we treat him as a guest. If I can, I introduce him about the offices myself. He is given every opportunity to understand how things are done there. We see that he knows what plays are worth while, that he has a guest card at some club, and that he is comfortably fixed up at his hotel.

"Small things, some of them. But they pay, all of them."

"I never had any trouble to speak of with my workmen," said an engineer whose operations have extended to at least three continents, "and the reason, I think, was that I knew them—was really well acquainted with them personally."

"You can't, of course, know them all now," I suggested.

"No," he said. "That is one of the penalties of a big organization. But I have done the next best thing. I have made it a point to know the different property managers, superintendents, and other executives, just as far down the line as I could—I mean, know them in the same intimate way that I used to know the workmen.

"You have noticed how, when a manager has an aloof, unsympathetic way with his executives, the executives usually have the same way with the executives under them, and so on down the line. Just as the brakeman on the train usually wears a moustache if the conductor does. The spirit of the boss—to say nothing of his mannerisms—is pretty sure to be the spirit of the works.

"So, if the manager has a fair and friendly attitude toward his executives, that attitude is likely to appear all through the organization. To a certain extent, the thing comes about spontaneously. It did in our case; but I helped it along some by telling my executives what I was about. I told them I wanted as far as possible to maintain the relation between the man and his immediate boss that we had when the business was small.

"We have done this; and the result is that we have just about as little labor trouble as ever—although in some places the radicals are all around us."

Methods of Government

Any business investigator who goes about nowadays with his eyes open is pretty sure to notice three types of concerns: those (a rapidly increasing number) in which there is a good deal of both the form and the spirit of democratic government; those in which there is a good deal of the form and little or none of the spirit; and those, the largest class of the three, in which is much of the spirit and, as yet, little or none of the form.

A middle western factory, one of the several plants manufacturing a widely known piece of factory equipment, is an interesting example of the last class. There the open door to the office of the plant manager, who incidentally is also one of the company vice-presidents, was the only outward sign of the free expression that is open to every employee in the place—of the power of the employee to reach and influence the management with his views.

"The door is always open," said the manager. "There isn't so much as a secretary between me and any one in the

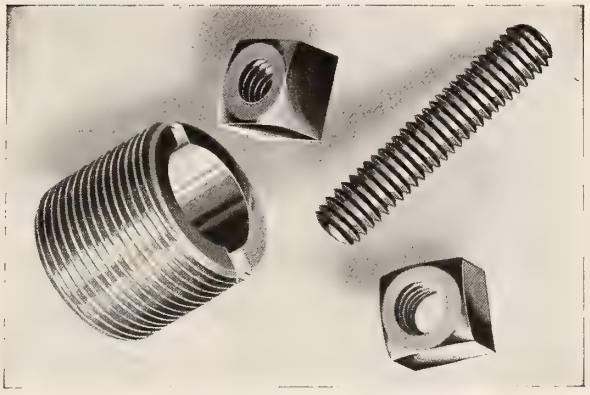


SHIP CASTINGS

A Specialty

CANADIAN STEEL FOUNDRIES, LIMITED
Transportation Building. Montreal

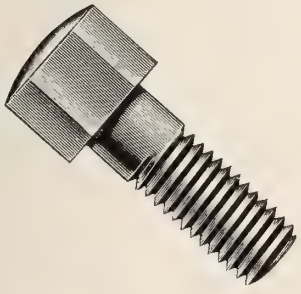


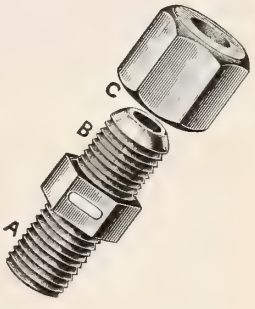




Satisfaction Guaranteed

Prompt Deliveries

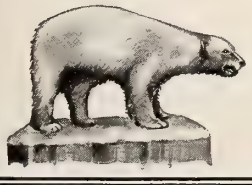




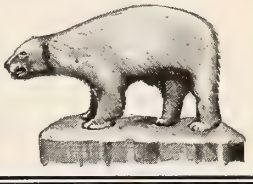
WE MANUFACTURE

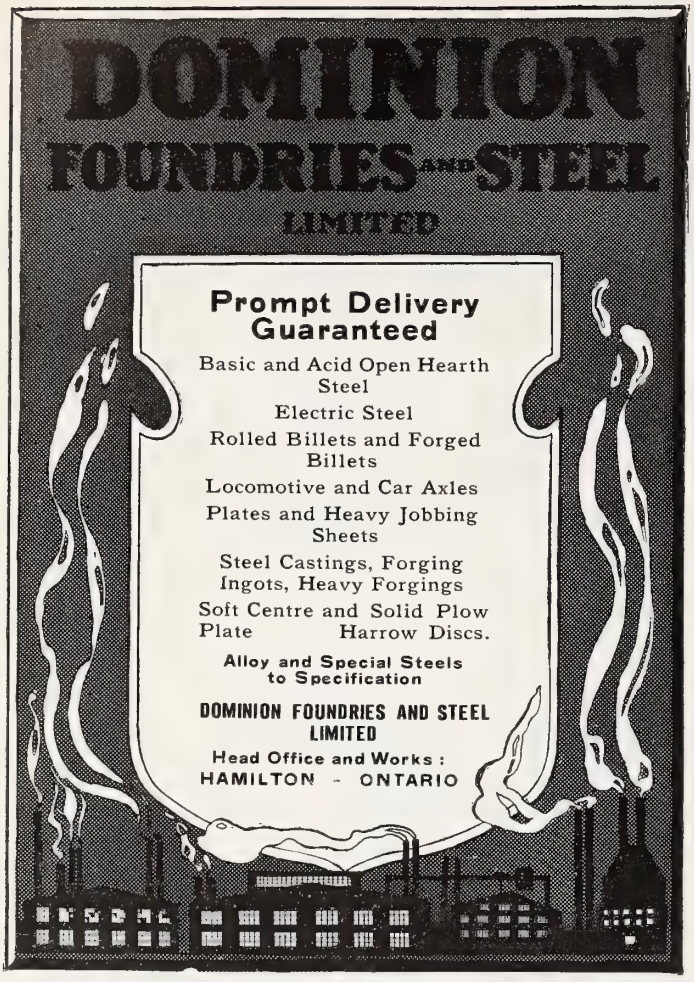
Brass
Automatic Screw Machine Products

Capacity of Machines 1/8-inch to 2 inches
We solicit your inquiries
Mail us samples or blue prints



Tallman Brass & Metal Limited
HAMILTON, ONT.





PUT YOUR PROBLEM UP TO US



We are specialists in building locomotives. We build all types and sizes, also all kinds of repair parts for locomotives and tenders.

Our experience puts us in a position to give you expert advice as to what particular type and size of locomotive is best suited to your needs.

Put your locomotive problem up to us.

MONTREAL LOCOMOTIVE WORKS, LIMITED
DOMINION EXPRESS BUILDING MONTREAL, CANADA

plant who wants to see me. The understanding is simply that any one who wants to can come in whenever I am not busy with some one else.

"Once or twice it has happened that I have been bothered by somebody who came in too often, came in with trivial things to take up, evidently with the idea of attracting attention. In those instances I have been quite frank. I have said:

" 'Jack, I know you won't mind my saying you're coming in here with too many things. I want you to come in just as often as you need to, but before you come, think whether the thing really ought to be brought to me.' . . . Something like that; and the man has understood and stopped bothering me.

Taking the Open Door to Employees

"But, for the most part, I have felt that even the open door did not bring in all the employees who ought to talk to me. And so, in a way, I have taken the open door out to the employees. I make a trip around the plant once or twice a day; and I have tried to build up a feeling among the people that I want them to come to me on these trips and tell me anything they think I should know. I have done this mostly by chatting with them as I go about and showing them that I appreciate it when they do tell me things that seem important to them.

"I have got a great deal of valuable information and guidance in this way. If there is any cause of dissatisfaction among the men, I am pretty sure to hear of it on my rounds. Some one will nearly always come to me about it. The men have also come to me with many ideas for savings and for improving our methods and our product.

"If I were to take the attitude that these things were none of their business, that I was managing the plant and didn't need any help from them, they would shut up like clams. But I like them to feel, and I like to feel myself, that these things are their business. And even if the suggestion isn't of any value, even if I already know what they tell me, I appreciate it just the same, and show that I do.

Handling of Suggestions

"I could also stop the flow of suggestions pretty quickly by failing to see that those which are good are carried out. If the expression of the workmen's views were merely verbal, and brought no practical results, it would soon stop being any expression at all. As a matter of fact, I try to see that the right ideas produce results just as surely as if the workmen actually had votes to register on the management of the plant.

"There is just one condition I insist on, in receiving the suggestions. Any workman can come to me about anything, in either his own or someone else's department, but he must always come with a constructive purpose. If he comes out of bad feeling for a fellow workman, I am the one who shuts up like a clam. I do not listen to destructive criticism.

"So when one workman sees another talking to me, he knows there is no mere spite work going on. He knows that he is affected only if he has neglected something, only if criticism of something he has done or left undone is itself in the way of constructive criticism.

"The understanding all through the force that anything that deserves that sort of criticism is pretty sure to get to me, and get to me quickly, helps to keep all the people doing their best."

Every Member of Our Organization is an Active Worker, co-operating to produce Results

Results mean Satisfied Owners

JOHN V. GRAY CONSTRUCTION CO., LTD.
GENERAL CONTRACTORS
625 Confederation Life Building - - - - TORONTO, ONT.

ARE YOUR STEAM PIPES INSULATED?
IF NOT YOU ARE BURNING MONEY

A GOOD COVERING pays for itself in one Season, and is a revenue producer indefinitely. The Best is the Cheapest **WE HAVE IT**

EUREKA MINERAL WOOL & ASBESTOS COMPANY
118 ADELAIDE STREET WEST, TORONTO, ONTARIO

JULIUS COHEN & JOSEPHY

Foreign Domestic **WOOL** *Noils, Wastes and Shoddy*

Also operating THE YORKSHIRE WOOL STOCK MILLS, ALMONTE, ONT.
Manufacturers of Pulled and Carded Shoddies

H. V. ANDREWS Canadian Representative **13 Church St., Toronto**

ELECTRIC STEEL CASTINGS

WE CAN SUPPLY

Carbon Manganese, Alloy, Steel Castings Forging Ingots, Etc.

Write for prices and particulars

The Electric Steel and Metals Company, Limited
WELLAND, ONTARIO

ACCURACY IN COST SYSTEMS

Costs should be blended into the regular accounting books so that they will show monthly the money value of the factory inventory and the net profits of the entire business. This is where most cost systems fall short. They are single-entry instead of double-entry systems.

By HASBROUCK HAYNES, M.E.

(From the "Manufacturers' News.")

An accurate cost system is the only correct basis for estimating on new work or for pricing standard lines of product. It is the only way of knowing the actual profit or loss resulting from each sale. Knowledge of costs is the first step towards a reduction of costs resulting in an increase of profits.

Few manufacturers, however, enjoy the comfort of a simple method for obtaining accurate cost information. Moreover, but a few fully recognize the ultimate value of a complete cost accounting plan.

Too many manufacturers' cost systems are simply initial records of work accomplished, the usefulness of which ends once the goods are finished. This, of course, is one of the important features of cost accounting, but there are other features no less important.

Net Profits and Perpetual Inventory

The ultimate object of a complete cost accounting system is to give the management facts and figures upon which it can base intelligent criticism of past and present business and for more profitable direction of the affairs of the future. This information should be available promptly every month. It should be very complete and yet expressed simply and in terms of dollars and cents, monthly reflected in the balance sheet and profit and loss statement.

The ultimate cost system, therefore, goes further than just telling the cost of the product made. Costs should be blended into the regular accounting books so that the books show monthly the money value of the factory inventory and the net profits of the entire business.

This is where most cost systems fall short. They are single-entry, instead of double-entry systems. They are separate from or patched onto the regular double-entry accounting system. They are not a part of the accounting system and controlled by it. As such they are no more successful than a self-starter patched onto an old car not originally designed for a starter. To-day self-starters are designed and cast integral with the motor itself—so also a cost system should be designed and made an integral part of the accounting system which it supports.

Profitableness of Different Lines of Products

Modern manufacturing is increasingly complex. Where there are different kinds of types of product it is no longer sufficient to know that the business in general is a paying proposition. Without the aid of a good cost system it is impossible to know the profitableness of any single line. With the aid of a good cost system the manager is informed regarding shop operations as they progress and can often avert losses, instead of waiting until the work is finished, when a remedy will come too late.

A cost system is indispensable if work is to be planned in advance and if correct estimates are required, whether for securing new work or for insuring that production cost shall not exceed market possibilities. The custom of estimating costs in advance of production and then insuring that these costs are met in production, is coming more and more into use as the practice of planning work in advance becomes more common.

To an industry as a whole the necessity of accurate costs is of prime importance. The manufacturer who underbids his competitors on the basis of faulty cost records not only works his own ruin but that of his competitors as well. This is the worst form of competition and should be most feared. It is little satisfaction to the manufacturer whose costs are correct to know that the successful bidder is digging his own grave, so long as others, no better informed regarding costs, are constantly coming into the field.

The successful manufacturer who once offered to send his cost accountant to teach correct cost-finding principles to any competitor was a foresighted individual.

History Repeats Itself

Most manufacturing concerns start in a small way and grow up more or less rapidly to a point where the details become so complex and the units so voluminous that authority and responsibility must be delegated. Need for some check on costs and expenses is paramount for future expansion.

The management then feels the urgent need of a cost and accounting system which immediately and accurately reflects the results and the financial condition of the company each month. To wait for the annual physical inventory is dangerous. Too much might go wrong in the meantime. But right here is where the mistake is usually made.

The result is but to be expected, for the designing and installing of a successful cost system, except under the most favorable conditions, is the work for the engineer-accountant. Therefore, any manufacturer who has had unsatisfactory experience with costs or is contemplating the installation of a cost system would find it very much to his advantage to call in the engineer-accountant who has specialized in costs to do the work.

Bookkeeping and Cost Keeping

Bookkeeping and cost keeping are distinct work. Bookkeeping is concerned with recording facts; cost keeping deals with finding facts.

To establish a simple means for determining the amount of material and labor used in each unit of product, the bookkeeping is concerned with recording facts; cost keeping is at sea. He is accustomed to working with figures, vouchers and accounts. He well understands the transactions of ordinary business. But it takes the engineer, by virtue of his peculiar training and experience, to comprehend fully manufacturing processes and operations and, where any doubt exists, to be able to subordinate the factory transactions of material and labor to a definite routine for costing purposes.

Then, too, the blending of the cost records into the regular accounting books for obtaining the monthly profit on each class of a product and for the maintenance of a perpetual inventory in money value is an art in itself.

To do it right it requires a specially designed classification of inventory and other cost accounts in order that a double-entry check may be maintained throughout.

But when once the cost system has been designed and installed then the accountant or bookkeeper is the ideal man to keep it up and actually blend the cost records into the financial books in accordance with the predetermined plan.

Hence it requires both the engineer and the accountant to make the most happy combination.

THE NICHOLS CHEMICAL COMPANY, LIMITED

MANUFACTURING CHEMISTS

HEAD OFFICE: 222 ST. JAMES STREET, MONTREAL

Branch Office—120 Mill Street, Toronto

WORKS: Capelton, Que., Sulphide, Ont., Barnet, B.C. WAREHOUSES: Montreal, Toronto

Sulphuric Acid	Sulphate Soda	Glauber's Salt	Bleaching Powder
Muriatic Acid	Sulphide Soda	Blue Vitriol	Tri-Sodium Phosphate
Nitric Acid	Hypo-Sulphite Soda	Sulphate Alumina	Ammonia
Hydrofluoric Acid	Bi-Sulphite Soda	Papermaker's Alum	Salt Cake
Mixed Acid	Phosphate Soda	Caustic Soda	Tin Crystals

Agents for Baker & Adamson's Chemically Pure Acids and Chemicals

AGENTS FOR CANADIAN SALT CO.—"WINDSOR" BRAND CAUSTIC SODA & BLEACHING POWDER

Northern Aluminum Company
Limited

Sales Office: 1305 Bank of Hamilton Bldg., Toronto

Works:
Shawinigan Falls, P.Q. Toronto, Ontario

ALUMINUM

Electrical Conductors
Sheet Ingot
Castings Rod
Tubing Special Shapes
Fabricated Articles

Send inquiries to
1305 BANK OF HAMILTON BUILDING
TORONTO

REDUCES FIRE RISK



Fire underwriters are so certain of this fire sprinkler's efficiency that they allow 40 to 70% reduction of insurance premium where it is installed. You know that insurance does not cover loss of business and other tangible losses that follow a fire. Why not cut out half of your fire risk?

MANUFACTURERS' AUTOMATIC
SPRINKLERS

They pay for themselves, in insurance premium reduction, in 3 to 5 years. Endorsed by successful architects and construction engineers. Can be installed in old or new buildings while the work goes on uninterrupted.

THE BENNETT & WRIGHT CO LTD.
72 QUEEN ST EAST, TORONTO, CAN.

WRIGLEY'S

THREE FLAVORS

WRIGLEY'S JUICY FRUIT CHEWING GUM
THE FLAVOR LASTS

WRIGLEY'S SPEARMINT
THE PERFECT GUM
FIVE STICKS
THE FLAVOR LASTS

WRIGLEY'S DOUBLEMINT
DOUBLE STRENGTH
FIVE STICKS
PEPPERMINT

Made in Canada



From British Stock

"GENUINE OAK"

LEATHER BELTING

"D.K."

BALATA BELTING

Guaranteed to Give Satisfaction

D. K. McLAREN LIMITED

TORONTO MONTREAL ST. JOHN, N.B.
849 Beatty Street, VANCOUVER

LEATHER BELTING

Made in Canada

J. L. Goodhue & Co., Limited
DANVILLE, QUEBEC

Manufacturers of
SUPERIOR QUALITY LEATHER BELTING AND LACE LEATHER

QUALITY
Not Price Our Aim

Canadian Manufacturers SHOULD USE Canadian Belting

Winnipeg Agents:
BISSETT & WEBB, Limited
126 Lombard St.
Winnipeg, Man.

Vancouver Agents:
FLECK BROS., Limited
54 Cordova Street East
Vancouver, B.C.

Montreal Agents
STANDARD MACHINERY & SUPPLIES, Ltd.
260 ST. JAMES ST., MONTREAL

INDUSTRIAL RESEARCH IN THE U.S.

The writer of the following article, who is professor of mathematics in the University of Toronto, describes two visits which he paid to centres of industrial research in the United States during the past two years. What he saw and heard makes very interesting reading and at the same time points to the need of the development of similar work in Canada.

By J. C. FIELDS, Ph.D., F.R.S.
(From "University of Toronto Monthly.")

In June, 1917, and in August and September, 1918, the writer visited centres in the United States where there were organizations for industrial research. The effects of the war in stimulating research were in evidence on both occasions. On the former visit these effects were manifested largely in attempts to supply pressing economic needs. When war first broke out the people of the United States were deprived of important articles which they had formerly imported from Europe. The research workers of the country were called on to devise means of producing either the articles themselves or effective substitutes. The results surpassed all expectations.

Synthetic drugs and chemicals, which were formerly derived from Germany, are now prepared in the United States. Certain high grade steel alloys, for which America looked to Austria, are now manufactured on this side of the Atlantic. The American dyestuffs industry has been placed in a position where it can cheerfully meet all competition. In 1914 the United States produced less than $2,500,000 worth of artificial dyes. In 1917 the output was more than $57,000,000. The total annual production of the world before the war was $92,150,000, of which Germany's proportion was $68,300,000.

Production of Potash

The potash needs of the country are not as yet satisfied. Nevertheless in 1917 the product from various native sources totalled $14,000,000. Of this $8,000,000 worth came from the brine lakes of Nebraska and other states. The kelp of the Pacific Coast furnished $2,000,000 worth and $1,000,000 worth was provided by the molasses residue from distilleries. Only $750,000 worth came from the chimneys of cement factories. Dr. Van H. Manning, the Director of the Bureau of Mines, to whose kindness I am indebted for these figures, expects that ere long half the needs of the country will be supplied from the last named source. He is hopeful, too, that a considerable amount will ultimately be recovered from the dust from blast furnaces. Much valuable work has been done by the Bureau of Mines in connection with the two last mentioned sources of supply.

When I visited the United States in 1918, practically all the research laboratories were busied on war problems. The research men were working under pressure and in one laboratory I was told that they were doing in one month what in peace times it would have taken the greater part of a year to accomplish. The laboratories were not as accessible as they were on my visit of the year preceding, and where one saw something of what was being done it was understood that much of it was of a confidential character.

When the United States entered the war, the research workers in the universities and elsewhere volunteered their services. The scientific forces of the country were mobilized with results which have been far reaching. The achievements of science in the war cannot but appeal to the popular imagination. When the ban of secrecy is completely lifted and it is realized how multifarious and how important these achievements have been, public opinion will surely insist on



Cut of 60-inch "Extra" Double Belt
Made by The J. C. McLaren Belting Co., Limited.

WE ARE HEADQUARTERS FOR ALL KINDS OF

BELTING
LACE LEATHER
CARD CLOTHING
REEDS AND
GENERAL
MILL SUPPLIES

ABSOLUTE SATISFACTION GUARANTEED

The J. C. McLaren Belting Co., Limited

ESTABLISHED 1856

Head Office and Factory
MONTREAL, Que.

Branches:
50 COLBORNE ST., TORONTO
80 LOMBARD ST., WINNIPEG

633-661
EASTERN
AVENUE



ESTABLISHED 1852

The Largest Patent Leather Manufacturers in the British Empire

A. R. CLARKE & CO., LIMITED

MONTREAL TORONTO QUEBEC



With our greatly increased capacity we need your business.

A wheel for every purpose and satisfaction guaranteed.

Let us send our new Catalog and quote prices.

Dominion Abrasive Wheel Co., Ltd.

MIMICO. ONTARIO, CANADA.

DU PONT CANADIAN INDUSTRIES

Free Upon Application

We will send you a copy of a booklet telling of the uses and advantages of

TRUCK SPECIAL

DU PONT FABRIKOID
REG. U.S. PAT. OFF.

A tough durable, grease and waterproof upholstering material for commercial motor trucks and vehicles

Write for this booklet on Truck Special

Du Pont Fabrikoid Company

Sales Office:

63 BAY ST. TORONTO

DU PONT

a more generous support of research and a better treatment of the research worker, both inside and outside the university. The manufacturers, including the smaller ones, are becoming more and more impressed with the potentialities lying in the application of science to industry. I was told of a manufacturer of woodenware on a small scale who took up the construction of aeroplane parts and, in that connection, experienced the benefit of scientific advice. He stated that he had formerly had no faith in the scientist. He now realized, however, that many of his difficulties might have been solved for him ten years earlier had he been willing to consult a scientifically trained man. This instance was cited to me by a well-known chemist who also told me the story of a group of firms which had muddled over a problem until they had expended $100,000, without result. They then came to him and stated that they were ready to spend $100,000 more on the problem and that they were willing to wait five years for a solution. Three research men were put to work on it and the matter was speedily cleared up. The bill was $2,000. The results attained have proved of importance in the war.

One of the laboratories visited by the writer last August was that of the Eastman Kodak Company, located in Rochester, N.Y. This laboratory employs a staff of forty research workers and costs $150,000 for annual maintenance. When the United States declared war these research workers, together with certain others in the employ of the company, organized themselves into a teaching staff for instructing members of the air force in aerophotography. After a sufficient number of the latter had been trained so that they could do the teaching, the research workers returned to their laboratory and devoted themselves exclusively to war problems. Their services cost the country nothing, their salaries being paid by the company. The problems handled presented a considerable diversity in their nature. They concerned themselves, among other things, with anti-submarine devices, with liquid fuel and with aerophotographic apparatus. In particular, much time and ingenuity were expended in originating new types of color filter, that invention which plays such an important role in bringing out specific features of a landscape as photographed from an aeroplane.

Co-operation with Universities

It may be noted that the Eastman Kodak Company is collaborating with the University of Illinois in manufacturing and selling at cost certain important chemical reagents. These reagents, which were formerly imported from Germany, are employed in chemical research.

Another large industry in Rochester is that of the Bausch and Lomb Company. Ths company employs nearly 6,000 workers and is the largest optical instrument company in America. Of its output 98 per cent., I was told, was for war purposes. Among its most important products are the rangefinders for the navy and anti-aircraft service. Some of those I saw were thirty feet in length. For the construction of rangefinders the very finest optical glass is essential. At the time of my visit to the United States in 1917 such glass was not to be had. In the meantime scientific men brought their skill and methods to bear on the matter and when I visited Rochester in 1918 a supply of optical glass was available which was equal to the best which had been imported from Germany before the war.

After leaving Rochester the writer visited Syracuse, Schenectady, Worcester and Boston. Near Syracuse is the laboratory of the Semet Solvay and the Solvay Process Companies. In this laboratory fifty research workers are employed. Much work has been done on processes for obtaining trinitrotoluol and on processes for producing benzalchloride and thence deriving benzaldehyde. A recent outcome of work done in this laboratory is a process for ex-

HEAVY CHEMICALS AND DYESTUFFS

The Grasselli Chemical Co.

LIMITED

Manufacturing Chemists

Toronto, Ontario

Branch Office: MONTREAL, QUE. Works: HAMILTON, ONT

H. & D. Corrugated and Solid Fibre Board



CONTAINERS will save on your transportation charges, save your floor space, cut down packing expenses, and give you positive protection against loss from damage and pilfering. Write for prices and samples.

The Hinde & Dauch Paper Co. of Canada, Limited, Toronto, Canada

D&SCo. Quality & Service

Forgings, Stampings or Pressed Steel Parts

AN attractive catalogue showing the facilities this Company has for producing **Forgings** and **Sheet Metal Parts**—particularly in large quantities, sent on request.

Dominion Forge & Stamping Co., Ltd.
WALKERVILLE, ONT.

SYRUP CANS

LITHOGRAPHED



AND PLAIN

Write for Circular and Price List

MACDONALD MFG. CO., Ltd.
145 Spadina Avenue
TORONTO - - CANADA

tracting potash salts from one of the larger brine lakes of California. They have also succeeded, in collaboration with Government chemists, in catalytically oxydizing ammonia for the manufacture on a commercial scale of nitric acid.

The laboratory of the General Electric Company at Schenectady was visited by the writer both in 1917 and in 1918. During the past year, I have, on several occasions, given details in regard to some of the achievements of this great research establisment. Dr. Dushman, too, a member of the research staff at Schenectady and a graduate of our own University, has recently lectured here on the work of the laboratory. It may, therefore, suffice if I mention that in August last the laboratory was given over completely to war work, that the members of the staff were in particular preoccupied with the submarine problem and that the expenditure on research in 1918 was more than double that in the preceding year. It would probably be a safe guess to say that the General Electric Company in 1918 expended on research in its various laboratories a sum which did not fall far short of $2,000,000.

Conduct Department on Commercial Basis

At the Worcester Polytechnic it struck one as rather novel to find that the Department of Mechanical Engineering was conducted on a commercial basis. The Department has its own shops, with a weekly pay list of $1,800. It possesses its own patents and manufactures apparatus for the market. In the year 1917-18 it did a business of $220,000. At the time of my visit 95 per cent. of the output of the shops was war work. A student, I was told, could help pay his way by working in the shops.

A number of pieces of research which had engaged the attention of members of the staff were described to me. In that connection stress was laid on the necessity of collaboration on the part of the engineer with the physicist and the chemist, as in so many cases his problems bring him up against difficulties of a purely scientific character.

Another engineering institution is the Massachusetts Institute of Technology, which is now housed in its magnificent new buildings on the Cambridge bank of the Charles River. The Institute conducts a course in physics and chemistry which is specially intended to train men for industrial research. It has extensive research laboratories, which at the time of my visit were being utilized for war purposes. It is also well-manned—a prerequisite in order that individual members of the staff may find time for research. A point which I noted was the emphasis which is laid on the calculus as an instrument for the engineer.

The A. D. Little Laboratory

Not far removed from the Institute of Technology, on the bank of the Charles River, stands the laboratory of the A. D. Little Company, Inc. This is a model commercial laboratory, employing forty research workers. One of its products is cellulose acetate, from which artificial silk, bristles and other articles are manufactured. A complete pulp and paper mill constitutes a part of the equipment. There is also a distillery, which is working on the extraction of alcohol from bananas. At the time of my visit war work was being carried on in the testing of foodstuffs on a large scale for the United States Government and the New England Food Administration. A study was also being made of varnishes for aeroplanes.

An interesting feature of Dr. Little's laboratory is an industrial research museum. This museum, which is still in its infancy, has as its purpose to exhibit the historic development of a variety of industries which depend on research for their growth. For example, the evolution of cottonseed oil and its by-products from cottonseed is illustrated. What was here dead waste forty years ago now means, thanks to the

DOMINION BRIDGE CO., LIMITED

MONTREAL, P.Q.

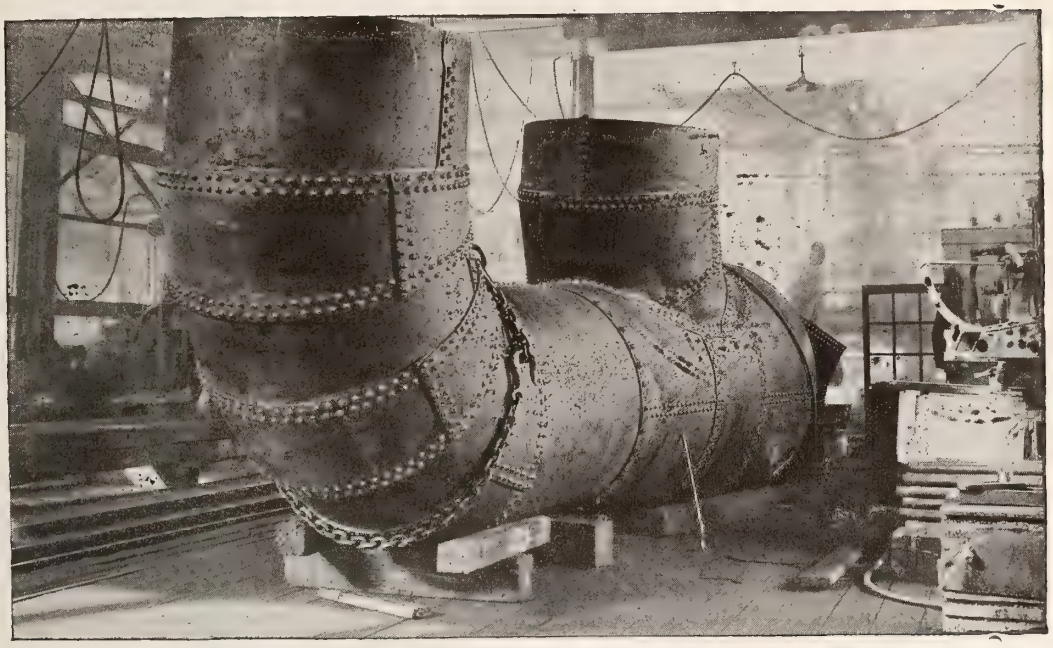
Engineers, Manufacturers and Erectors of

Paper Making Machinery

Steel Structures

Railway and Highway Bridges

Electric and Hand Power Travelling Cranes



Penstocks

Tank and Plate Work

Marine Engines and Boilers

Coal and Ore Handling Machinery

Lift Locks and Gates

Head Office and Works: LACHINE, P.Q., CANADA P.O. Address: MONTREAL, P.Q

Cable Address: DOMINION Branch Office and Works: TORONTO, OTTAWA, WINNIPEG

Sales Offices: MONTREAL, TORONTO, OTTAWA, WINNIPEG, EDMONTON, REGINA, VANCOUVER

LARGE STOCK OF STRUCTURAL MATERIAL AT ALL PLANTS

QUALITY AND SERVICE

Acetic Acid Refined
Acetic Acid Crude
Acetic Anhydride
Acetate of Soda
Acetate of Lime

Acetone Pure
Acetone Alcohol
Acetone Oils
Charcoal
Columnian Spirits
Wood Alcohol

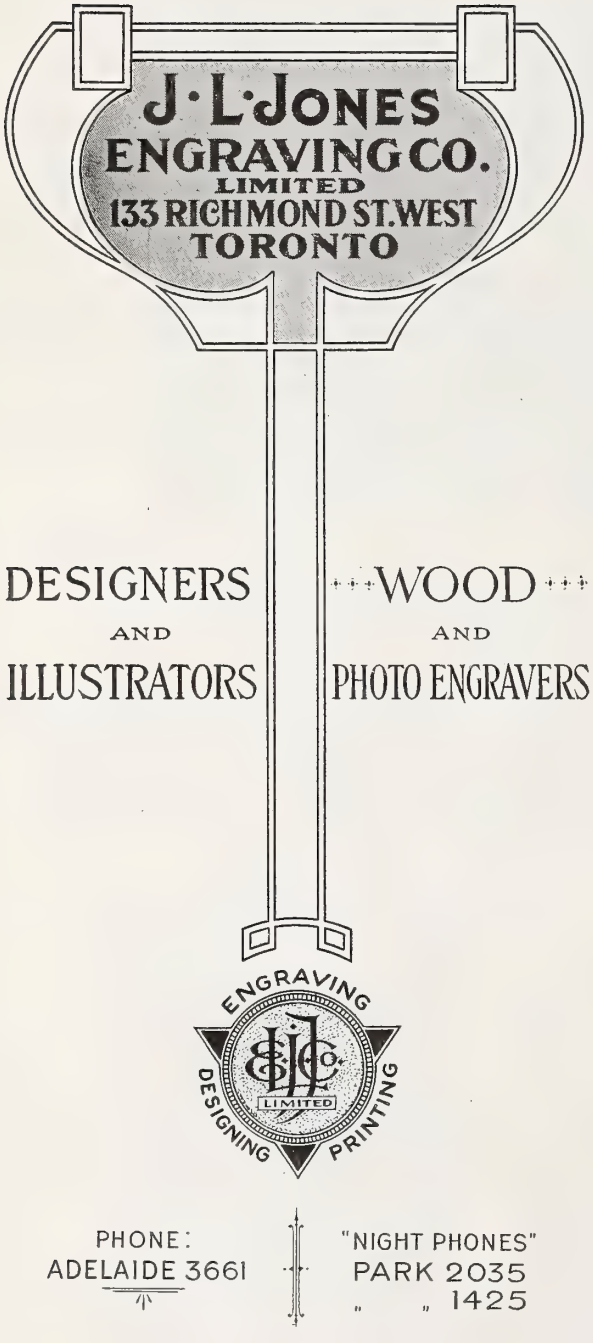
Creosote Oils
Formaldehyde
Methyl Acetate
Methyl Alcohol
Methyl Alcohol Pure

Made in Canada

Standard Chemical, Iron and Lumber Co.

OF CANADA, LIMITED

MONTREAL TORONTO WINNIPEG



research worker, a product whose value to the United States for the year 1918 was $320,000,000.

Intermediate between Boston and New York I made a stay at Woods Hole, a Mecca for research biologists during the summer months. Here is located the Marine Biological Laboratory, on whose staff by the way are several good Canadians domiciled in the United States, including the Director, Professor Frank Lillie, of Chicago. Investigations were under way on a variety of subjects. In particular, a good deal of work was being done on problems connected with heredity. A touch of the war was in evidence in that the effect of poison gas on cell tissue was being studied. The war too was responsible for an attempt which was being made at a station of the U.S. Fish Commission in the vicinity to obtain a substitute for gum arabic from the kelp which is found along the coast.

In New York the writer met a number of scientists with whom he discussed industrial research. Among these was Dr. Takamine, the eminent Japanese chemist, who is responsible for the research movement in Japan. Dr. Takamine informed me that a sum of $5,000,000 (10,000,000 yen) was being raised to establish a research institute for physics and chemistry in Tokyo. The Emperor had subscribed $500,000, Parliament $1,000,000, commercial and industrial concerns $2,000,000, and it was expected that the remaining $1,500,000 would soon be in hand. The buildings are at present under construction. Members of the staff are now visiting other countries in search of the latest information, and will be on hand, prepared to assume their duties, as soon as the buildings are ready for occupation.

In its research undertakings the Japanese Government has been advised by Dr. Alcan Hirsch, of New York, who is also adviser to the Japan Dyestuffs Company, on whose capital of $4,000,000 the Government guarantees 8 per cent. annually for ten years.

On the waterfront in New York are located the laboratories of the Western Electric Company. These are the greatest laboratories of their kind in the world, and Dr. F. B. Jewett, the Chief Engineer, on his recent visit to Toronto told us something of their weird achievements in the realms of wireless and multiplex telephony and telegraphy and in long distance telephony. It is now possible to hold more than one telephone conversation and to transmit several telegraph messages simultaneously over the same wires without the slightest interference or confusion. It is also possible for a man standing on the ground and speaking in his ordinary tone of voice to give orders to aeroplanes at a distance of ten or fifteen miles. These, among others, are recent advances made in the laboratories over which Dr. Jewett presides. The research workers in these laboratories number more than three hundred and the expenditure on research for the year 1918 was approximately $2,500,000.

At Wilmington, on the way from New York to Washington, are located the research headquarters of the Dupont Company. Here the annual expenditure on chemical research alone is $2,000,000. Besides this, a certain amount is expended on research in physics and engineering. There are four chemical laboratories, employing in all 290 research workers. Associated with each of these laboratories is an analytical division, whose chemists make analyses and do other routine work for the research chemists, in order that the time of the latter may be spent to best advantage. There are also forty-four chemists who are experts on the different processes in which the Dupont Companies are interested. All told, there are 1,100 chemists employed in various capacities in the works. The total number of employees is 65,000.

The bonus system has been introduced among the research workers and a bonus may run as high as $50,000. The policy



Use Imperial Soldering Paste

It is free from acid
It is, therefore, non-corrosive
It contains no resin
It is economical to use
It flows freely into twisted wire
It will solder steel wires readily
It will solder copper wires readily
It saves time and solder

Put up in 2-oz., 4-oz., 8-oz. and 16-oz. Tins, also 25-lb. and 50-lb. Pails.

Write for Free Sample 2-oz. Tin.

The Canada Metal Company Limited, Toronto

TAR PRODUCTS
BENZOLS

Dominion Tar and Chemical Company

TAR DISTILLERIES:

SAULT STE. MARIE, ONT. SYDNEY, N.S.

Also Agents and Operators for TORONTO CHEMICAL CO.

Benzol Recovery Plant, Sault Ste. Marie, Ont.

Address all communications to Sales Office, Sault Ste. Marie, Ont.

Black Varnish
Creosote Oils
Wood Preservative Oils
Hard Coal-Tar Pitch

Naphthalene
Disinfectants
Crude Carbolic Acids
Phenols and Cresols

Benzols
Xylols
Solvent Naphthas
Rubber Solvents

Fat Extraction Solvents
Paint Naphthas
Crude Naphthas
Shingle Stain Oils

ARMSTRONG WHITWORTH OF CANADA
LIMITED

Montreal,
Toronto,
Hamilton,
Winnipeg



Works: LONGUEUIL, QUE.

Manufacturers in Canada of

Locomotive and Car Wheel Tires

HIGH SPEED and CARBON TOOL STEEL

Shurly & Derrett
Limited
TORONTO



Manufacturers of

TWINES
of all kinds



"DOMINION"
COTTON AND WOOL WASTE AND COTTON WIPERS, WASHED AND STERILIZED

A WASTE FOR EVERY USE

6 Grades White Cotton Wiping Waste
5 Grades Colored Cotton Wiping Waste
4 Grades Wool Packing Waste
3 Grades Cotton Wipers, Washed and Sterilized

Samples with Prices on Request

Scythes & Company Limited
Montreal TORONTO Winnipeg

of the Dupont Companies in this regard is somewhat in contrast with that of a large manufacturing concern, cited by Professor Stieglitz, of Chicago, which added a little over $200 a year to the salary of the Director of its research work for a device of his which netted the company a profit of $80,000 annually.

Another great research establishment whose upkeep for the year 1918 cost $2,000,000 is the Bureau of Standards maintained by the Federal Government in Washington, D.C. Besides the current expenditure just indicated $1,500,000 was being expended on new buildings. At the time of my visit there were 785 research men employed in the laboratories, besides which there were 75 men in the field. Of the 785 men here referred to, 300 had been detailed to do research work and were in uniform. I was told that about 600 problems a month were presented to the Bureau of Standards by the military services alone. Practically all the work of the Bureau last year had a bearing on the war. Of the problems handled 65 per cent. were direct war problems. The remaining 35 per cent. had an indirect bearing on the war.

Confidential reports were issued in bulletin form several times a month. These were sent to a limited number of persons, all of whom, with a few exceptions, were heads of military, naval or aeronautical departments or organizations. Each bulletin indicated in a general way the progress made on a number of problems.

The Bureau of Mines is also a federal institution whose activities are largely those of research. Its appropriation jumped from $1,250,000 in 1917 to $8,000,000 in 1918. Nearly all of the latter sum has been spent in connection with the gas warfare service. The Bureau had begun its investigations in connection with the gas warfare in February, 1917, that is to say, before the United States declared war. Its first investigations had to do with gas masks. These were later extended so as to include all sorts of materials and apparatus employed in gas warfare. It collaborated with the National Research Council, the universities and other bodies, as also with individuals. When in June, 1918, the Chemical Warfare Service of the National Army was formed, and the War Department took charge of the work which the Bureau of Mines had been doing in connection with gas warfare, the Bureau was able to turn over to the Department a complete organization, with a personnel numbering 1,800. This included a corps of 700 chemists.

The Bureau of Mines conducts investigations on metallurgical problems, on lignites, on the composition of coal and on its utilization. It studies, in fact, everything connected with mining. It has, for instance, done a great deal of experimental work on the flotation process for treating ores. It does work on the technology of petroleum and natural gas. The methods employed in obtaining oil have been very wasteful. For example, in Oklahoma oil has been obtained under circumstances which would mean a loss of $75,000 worth of natural fuel gas for $25,000 worth of oil recovered. In one field of Oklahoma, it has been estimated that the waste of fuel gas in one year was equivalent to 5,500,000 tons of coal. A very large proportion of this waste can be eliminated, as the Bureau of Mines has shown, by employing what is called the mud laden fluid method. A very large proportion of the oil, too, from 30 per cent. to 90 per cent., is left in the ground. If it is able to cause the adoption of practices whereby the production is increased 10 per cent., the Bureau of Mines estimates that the ultimate aggregate saving to the country will be $450,000,000.

It would appear that the time is not so remote when the United States will have to look to its shales as a source of supply for oil. The Bureau of Mines has been studying processes for recovering oil from this source.

The Bureau of Mines has been instrumental in effecting a great saving in the by-products of coke. The United States

STEEL BARS

ROUNDS, SQUARES, FLATS, ANGLES AND SPECIAL SECTIONS FOR AGRICULTURAL IMPLEMENTS

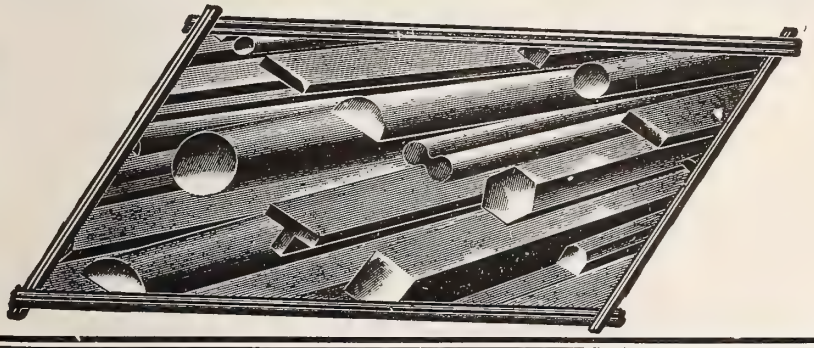
Prompt Shipment from Stock

BURLINGTON STEEL CO., Ltd.

HAMILTON - CANADA

UNION DRAWN STEEL CO., Limited

HAMILTON, ONTARIO



MANUFACTURERS OF

Shafting

Rounds, Flats, Squares and Hexagons

LARGEST STOCK IN CANADA

Get prices before ordering elsewhere.

CANADIAN TUBE & IRON CO., LIMITED

MONTREAL, CANADA

Ask Your Jobber for

WROUGHT PIPE BLACK AND GALVANIZED 1/8 TO 4 INCH

Thoroughly inspected and tested to 600 lbs. pressure and branded



Brand

Also BOLTS, NUTS, RIVETS—All Kinds

PRESSED SHIP SPIKES, BLACK AND GALVANIZED—All Sizes

SELLING AGENTS FOR

CANADIAN ROLLING MILLS CO., LIMITED

Bar Iron and Steel

COLONIAL WIRE MFG. CO., LIMITED

Wires, Wire Nails, Wood Screws, etc.

WORKS: LACHINE CANAL MONTREAL, CANADA

Don't Wear Out Men Wear Out Tools

It's cheaper to scrap dull files than to pay men to work with them.

That's why you should instruct all men to turn in files the moment they reach their "inefficient point."

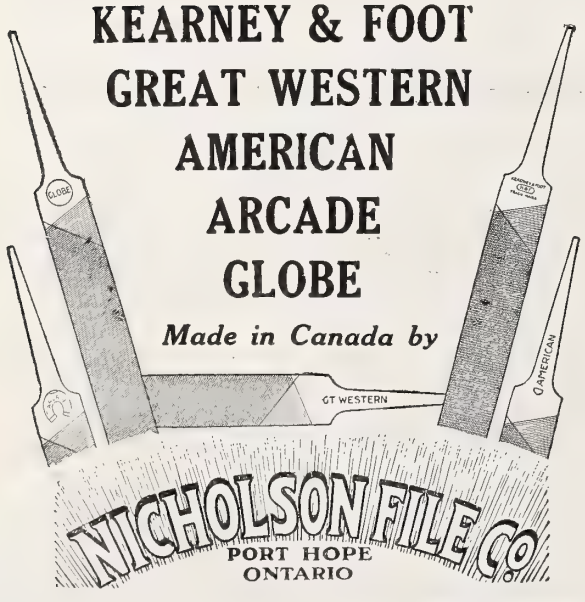
"Famous Five" Files, however, stay sharp for a long time because the steel is high grade, accurately cut and properly hardened.

Specify them when ordering.

They are:

KEARNEY & FOOT
GREAT WESTERN
AMERICAN
ARCADE
GLOBE

Made in Canada by



had been wasting $50,000,000 a year by using the beehive oven instead of the by-product oven in the coking of coal. A great change due to the war, came about in 1917 during which year 22,600,000 tons of coke came from by-product ovens. This amount was greatly increased in 1918. During the latter year according to the Director of the Bureau of Mines the by-product ovens in operation were expected to produce 5,000,000 more tons of coke than if the coal had been coked by the beehive process. Furthermore he estimated that these ovens in full operation would produce 315,000,000 gallons of tar which could be used in the arts on which as a fuel would have the same efficiency as fuel oil. He also pointed out that they are capable of yielding 168,000,000 feet of gas or sufficient to melt 12,000,000 tons of steel in open-hearth furnaces. The by-products here in question have been of immense importance in the production of explosives for the war. They have made it possible too to establish the great American dyestuffs industry.

As a result of the war the American Government developed temporarily into the greatest manufacturer of chemicals in the world. Its appropriations for nitrate and sulphuric acid plants have run into the hundreds of millions. It has been suggested that the products of some of these plants be now utilized for the manufacture of fertilizers. In this connection one might remark that it has been stated on good authority that a reduction of the cost of soluble nitrogen compounds to a price comparable with that prevailing in Germany before the war would add $1,000,000,000 to the annual value of crops of the United States.

The Fertilizer Question

The National Research Council has interested itself in the fertilizer question. It is felt that the farmer should be taught to use fertilizer. In the past however the fertilizer companies have not always been fair to the farmer. They have sold him constituents which were in many cases superfluous for his land. To remedy this abuse, the National Research Council has, with the concurrence of the Fertilizers' Association, organized a commission of five scientific men who will be paid by the Association. This commission, in co-operation with the individual States, will undertake a survey of lands in the Middle West with a view to determining the specific needs of the soils in different parts of that region.

It might be well to here say something more about the National Research Council, as it is an organization of comparatively recent date which has already abundantly justified its existence and which promises to exercise an immense influence on scientific and industrial research and on the intellectual life of the country in general.

"In April, 1916, immediately after the attack on the *Sussex*, the National Academy of Sciences voted to offer to the President its services in organizing the scientific resources of the country. This offer was accepted, and the Academy was requested to secure the co-operation of all agencies Governmental, Educational and Industrial, in which research facilities are available. The National Research Council, comprising the chiefs of the technical bureaus of the Army and Navy, the heads of Government Bureaus engaged in scientific research, a group of investigators representing educational institutions, and research foundations, and another group including representatives of industrial and engineering research, was accordingly constituted by the Academy with the active co-operation of the leading national scientific and engineering societies. To these were added representatives of the Government designated by the President."

Early in 1917 the National Research Council was requested to act as the Department of Science and Research of the Council of National Defence. On May 11th, 1918, the President of the United States issued an executive order in which he commended the work of the National Research Council and requested the National Academy of Sciences to perpetuate its

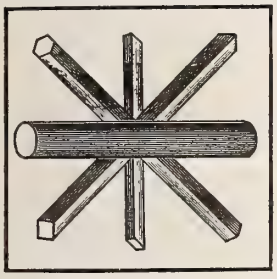


Why import WIRE ROPE when we manufacture your needs?

Ships' Rigging, Hawsers, DREDGE and ELEVATOR ROPES, Etc.

THE DOMINION WIRE ROPE COMPANY, Limited

TORONTO WINNIPEG MONTREAL



COLD DRAWN, TURNED AND POLISHED STEEL

SHAFTING

ROUNDS, SQUARES, HEXAGONS AND FLATS

$\frac{1}{8}$ in. to 6 in. Dia. $\frac{1}{4}$ in. to $2\frac{1}{4}$ in. $\frac{1}{4}$ in. to $2\frac{1}{4}$ in. up to $1\frac{1}{2}$ in. x 3 in.

FREE CUTTING SCREW STOCK PISTON AND PUMP RODS FINISHED KEYS

The CANADIAN DRAWN STEEL CO., Limited

HAMILTON, ONTARIO

THE CANADIAN BRIDGE CO., Limited

WALKERVILLE, ONTARIO

Montreal Office: New Birks Building

MANUFACTURERS

RAILWAY AND HIGHWAY BRIDGES

Locomotive Turn Tables. Roofs, Steel Buildings and Structural Iron Work of all Descriptions

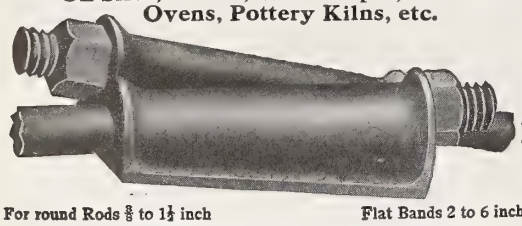
Steel Bridges

Railway and Highway Truss, Girder and Beam Spans of all types.



THE MARITIME BRIDGE COMPANY, LIMITED - New Glasgow, Nova Scotia

LUGS FOR BANDS
On Silos, Tanks, Water Pipes, Penstocks
Ovens, Pottery Kilns, etc.

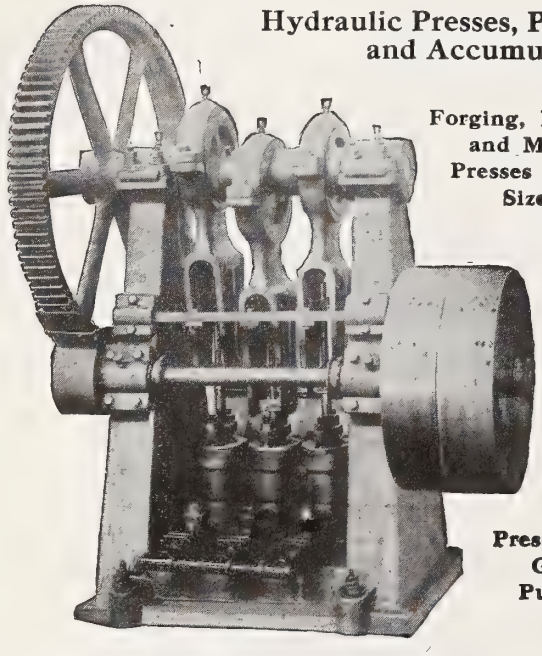


Ask for Price List

For round Rods ⅝ to 1½ inch Flat Bands 2 to 6 inches wide
Best Malleable Iron—Prompt Shipments.
OTTERVILLE MFG. CO., LIMITED
OTTERVILLE, ONT.

PRESSES
Made in Canada

Hydraulic Presses, Pumps and Accumulators



Forging, Nosing and Marking Presses for all Size Shells

Presses for General Purposes

WILLIAM R. PERRIN, Limited
Toronto, Canada

SMALL GREY IRON CASTINGS
BY SPECIAL PROCESS
Giving a Smooth, High-grade Casting for Enameling and Nickel Plating

Rubber Manufacturer's Equipment, Cast and Machined

CANADIAN-RUMELY CO., Limited
48 Abell Street - Toronto, Ont.

organization. At the same time he specified its functions as follows:

(1) In general, to stimulate research in the mathematical, physical and biological sciences, and in the application of these sciences to engineering, agricultural, medicine and other useful arts, with the object of increasing knowledge, of strengthening the national defence and of contributing in other ways to the public welfare.

(2) To survey the larger possibilities of science, to formulate comprehensive projects of research, and to develop effective means of utilizing the scientific and technical resources of the country for dealing with these projects.

(3) To promote co-operation in research at home and abroad, in order to secure concentration of effort, minimize duplication, and stimulate progress; but in all co-operative undertakings to give encouragement to individual initiative, as fundamentally important to the advancement of science.

(4) To serve as a means of bringing American and foreign investigators into active co-operation with the scientific and technical services of the war and navy departments and with those of the civil branches of the Government.

(5) To direct the attention of scientific and technical investigators to the present importance of military and industrial problems in connection with the war, and to aid in the solution of these problems by organizing specific researches.

(6) To gather and collate scientific and technical information at home and abroad, in co-operation with Governmental and other agencies and to render such information available to duly accredited persons.

Under its war organization the National Research Council counted more than one hundred members. It had as officers a chairman, three vice-chairmen, a treasurer, an executive secretary, and two assistant secretaries. With these was associated an executive board. The Council worked through eight so-called *Divisions*. The chairmen and vice-chairmen of these divisions were members of the Council. This however was not the case with the great majority of the members of the Divisions.

The territories covered by the activities of the several Divisions are more or less vaguely suggested by their titles, as follows: (1) General Relations, (2) Military, (3) Engineering, (4) Physics, Mathematics, Astronomy and Geophysics, (5) Chemistry and Chemical Technology, (6) Geology and Geography, (7) Medicine and Related Sciences, (8) Agriculture, Botany, Forestry, Zoology, and Fisheries. Under Division (1) are included foreign relations, relations with educational institutions, industrial research, reconstruction problems, etc. Division (2) includes the Research Information Service. This service has branches attached to the embassies in London, Paris and Rome. The appointment of a scientific attaché to an embassy is an innovation for which the National Research Council is responsible. The departure has, however, been amply justified and the office is likely to be made a permanent institution. One of the functions of a scientific attaché is to keep headquarters at Washington informed on all scientific developments which take place in the country to which his embassy is accredited. Another is to place American army and navy officers in his vicinity in a position to obtain any scientific information which they may require.

The Natonal Research Council has utilized workers in all branches of science. The laymen would hardly expect results of military value from an astronomer. Yet a remarkably expeditious method of reducing observations made in sound-ranging is due to a Princeton astronomer who has been working under the auspices of the National Research Council. Astronomers in the United States have also made important discoveries relating to the trajectories of projectiles and the dropping of bombs, and an American astronomer is said to



Penmans



Underwear, Hosiery and Sweaters
Laundry, Pulp and Papermakers' Felts, Blankets
Lumbermen's Socks, etc.

Factories at

PARIS, THOROLD, PORT DOVER, ALMONTE AND BRANTFORD, ONTARIO
ST. HYACINTHE AND COATICOOK, QUEBEC

Penmans LIMITED

PARIS : : : CANADA

Doon Twines
Limited

Kitchener - Canada

Manufacturers of

TWINES AND CORDAGE
CLOTHES LINES
PLOW LINES, etc.

We have a new line of Hemp Twine which we especially recommend for either light or heavy parcelling.

Our goods are made in Canada from the raw material. Assist the development of our country by buying Made-in-Canada goods.

MILLS AT DOON AND KITCHENER

The
MONTREAL COTTONS
LIMITED

MANUFACTURERS OF

WHITE VICTORIA LAWNS

WHITE NAINSOOKS

and

DYED COTTONS

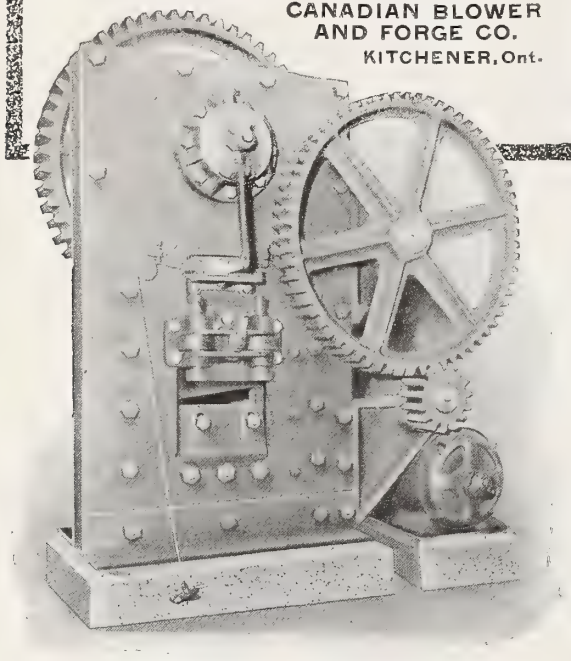
OF EVERY DESCRIPTION

CANADIAN ARMOR PLATE

PUNCHES, SLITTING SHEARS, and BAR CUTTERS are dependable. They are built of "Armor Plate" Steel—tensile strength 75,000 lbs. per square inch—7½ times as strong as cast iron.

That means a lighter and stronger machine—a machine built to take a lot of punishment. *Write for Catalogue P/S-51.*

CANADIAN BLOWER AND FORGE CO.
KITCHENER, Ont.





At the top!

THAT'S where **Butterfield Taps** have been for many years—in the very forefront of leadership in quality and highest in the estimation of expert machinists.

Butterfield Taps

Always do their work well. They assure both speed and accuracy, being made from the highest grade of tool steel, and always absolutely standard in gauge. When you buy taps, look for the name "**Butterfield**" on the shank. If it's there, you can buy the tool, and put it to work in the complete assurance that it will do its work unfailingly.

MADE IN CANADA BY

Butterfield & Co. Inc.

Rock Island, Quebec.

have perfected a new instrument which will be of great use to navigators whether on the sea or in the air.

Another surprise for the layman is to be found in the effective war service rendered by the psychologists. At the suggestion of the National Research Council a psychological examination of the troops was undertaken. This proved a great success and sufficed in many cases to determine in advance that it would be impossible to fit a man for a given post.

Until the close of hostilities the activities of the National Research Council were almost wholly absorbed by matters relating directly to the war. It is now reorganizing and has already adopted a new constitution under which, among other changes, a modified classification of Divisions has been introduced. In the new arrangement the Divisions are grouped into two classes A and B. The Divisions in these classes are as follows:

A. Divisions of general relations: (1) Government Division. (2) Foreign Relations. (3) States Relations. (4) Educational Relations. (5) Industrial Relations. (6) Research Information Service.

B. Divisions of science and technology: (7) Physical Sciences. (8) Engineering. (9) Chemistry and Chemical Technology: (10) Geology and Geography. (11) Medical Sciences. (12) Biology and Agriculture. (13) Anthropology and Psychology.

We shall not here go into detail with regard to other changes in the Constitution of the Council. Its peace plans are not as yet completely defined. Whatever shape they may take however there is reason to believe that the necessary funds will be forthcoming from other than Government sources. Before the close of the war it was already planning an extensive campaign for the promotion of industrial research. In this it was to receive the support of some of the most prominent commercial and industrial men in the country as well as of men in the scientific and technological professions. On his visit to Toronto already referred to, Dr. F. B. Jewett informed us that the National Research Council is now proposing that the leading universities found research professorships. He also told us something about the generous dimensions of the research fellowships which the Council intends to establish, the necessary funds thereto being furnished by corporations which have benefited by research. Last year the National Research Council received $122,000 from President Wilson out of the fund of $100,000,000 which was voted to him by Congress to dispose of as he deemed best for the national security and defence. Financial aid to the extent of $50,000 was furnished by the Rockefeller Institute and the Carnegie Corporation of New York contributed $100,000.

As a sign of the times it may be noted that one of the largest corporations in the United States has under consideration a project for establishing a graduate school in connection with its laboratories where selected students on fellowships would be trained in research methods and whence later on the brightest among them would be drafted into well-paid positions in the Company's research department.

It may be pointed out that at a meeting of representatives of National Academies held in the rooms of the Royal Society at London in October last it was proposed that each of the allied countries should have a National Research Council and it was furthermore suggested that there should be an International Research Council made up of representatives from the several National Research Councils. What would Canada's part be in such a scheme? Is Canada doing all that she should do in the matter of research? A prominent American scientist in conversation with the writer stated that Canada should be doing as much research as the United States actually is doing and that the United States should be doing ten times as much as she is doing. If this statement is correct Canada's multiplier would be considerably in excess of ten.



SPRINKLER TANKS and TOWERS

also wood and steel tanks for Municipal, Railway and Suburban water supply.

All our tanks and towers are built to pass inspection of any Board of Fire Underwriters.

Send for special tank and tower catalogue.

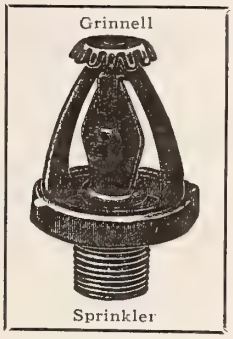
GALVANIZING HOT AND ELECTRIC

We do all kinds of hot and electro galvanizing for the trade. Our plant is one of the largest in Canada and our charges reasonable.

Write us for quotations on your galvanizing work.

Ontario Wind Engine & Pump Co., Limited

TORONTO MONTREAL WINNIPEG CALGARY



Save Fifty TO Ninety Per Cent.

of your insurance premiums and eliminate all fire worries by having us protect your factory and its output with an

Automatic Sprinkler System

Your savings in insurance premiums buy the complete system on our participating plan.

CONSULT US

Heating and Power Plants

Designed, installed or remodelled to reduce your maintenance cost to a minimum.

Expert advice given in all branches of Plumbing, Heating and Sprinkler Work.

PURDY, MANSELL LIMITED

Engineers and Contractors

63 ALBERT ST. TORONTO, CAN.

This is Your Business

A business of which you are part owner would have a rightful claim on your custom, wouldn't it? The Toronto Hydro-Electric System is a case in point. You and the other Toronto citizens own it. It is run for you at cost. Its "profits" are returned to the users in the shape of lower rates. Here's a question—**"What would you be paying to-day for electric power if it were not for Hydro?"**

Toronto Hydro-Electric System

226-8 Yonge St. **Branch—Gerrard and Carlaw**

Canada-South Africa
Direct Service

Regular monthly sailings from Montreal in Summer and St. John, N.B., in Winter, calling at Cape Town, Algoa Bay (Port Elizabeth), East London, Port Natal (Durban) and Delagoa Bay in the order named.

Sailings 20th of each month.

All steamers fitted with refrigerators for the carriage of perishable freight.

For rates of freight and other information apply to

ELDER DEMPSTER & CO., Limited
133 BOARD OF TRADE BUILDING - - MONTREAL
Toronto Agent: S. J. SHARP, 79 Yonge St., Royal Bank Bldg.

THE
New Zealand Shipping Company Limited
CANADA
TO
Australia and New Zealand

Regular monthly sailings from Montreal in summer and St. John in winter, calling at Auckland, Wellington, Lyttelton and Dunedin (New Zealand) and Melbourne and Sydney (Australia). Sailings 20th of each month.

Through bills of lading issued to all points in Australia, New Zealand, Tasmania and other islands of Oceania.

Marine Insurance effected at rates equal to those given from New York.

For rates and other information apply to

The New Zealand Shipping Co.
LIMITED
213 Board of Trade Building, Montreal

A RAPIDLY GROWING INDUSTRY

In the two years between 1915 and 1917, the value of the production of Canada's pulp and paper mills grew from $40,348,001 to $96,340,327, or by 140 per cent. In the same period the consumption of pulp wood increased from 1,405,836 to 2,104,334 cords. The capital invested in 1917 amounted to $186,787,405.

(From the Bureau of Statistics Report.)

The report on the pulp and paper industry of Canada in the Census of Industry series, just issued by the Dominion Bureau of Statistics, shows a considerable growth when the statistics in the present report are compared with those of 1915.

In 1915 the number of active mills was 80, and the value of production $40,348,001. In 1917 there were 83 mills in operation, with a production of $96,340,327, an increase in the latter year of nearly 140 per cent., as shown in the report.

Another important measure of growth, according to the report, is found in the consumption of pulpwood, which in 1915 was 1,405,836, and in 1917 was 2,104,334 cords, or an increase of nearly 50 per cent. during the same period. The total cut of pulpwood was 2,355,550 cords in 1915 and 3,122,188 cords in 1917, exports of pulpwood having risen from 949,714 cords in 1915, to 1,017,854 cords in 1917.

The production of wood-pulp in Canada in 1917 in all classes of mills amounted to 1,464,308 tons, compared with 1,296,084 tons in 1916, and 1,074,805 tons in 1915. Of the 1917 product, 804,472 tons were used by the producing mills in the manufacture of paper, while 659,836 tons were made for sale. The amount received for pulp sold was $32,824,626, or an average price per ton for all classes of pulp of $49.75. The average value of the different kinds of pulp made for sale was $28.06 for ground wood, $72.31 for sulphite fibre, and $68.26 for sulphate fibre. The export price of mechanical or ground wood pulp in 1917 was $28.32, and of chemical pulp, $73.01. The value of the entire output of wood pulp, if calculated at the average price per ton realized for that portion which was sold, would be $72,849,323.

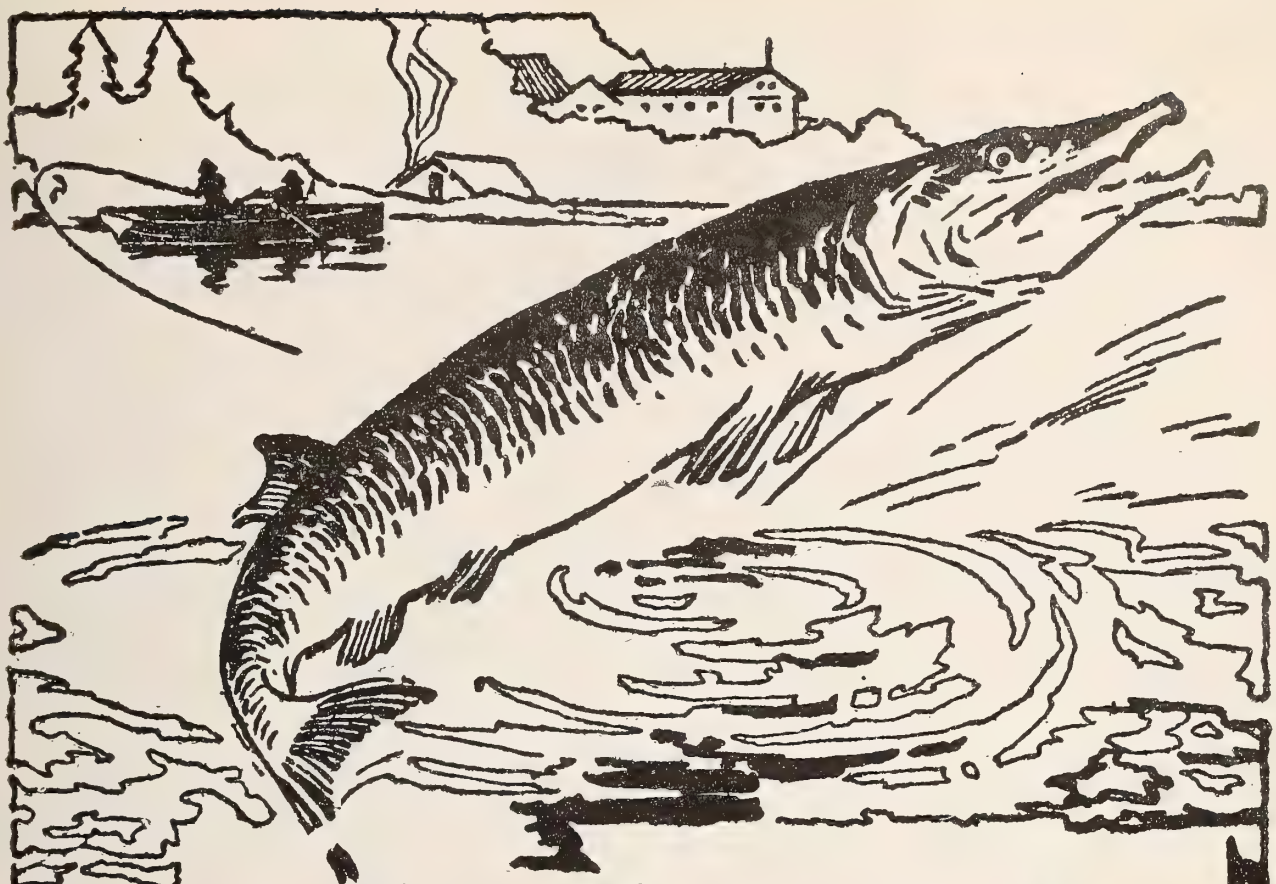
Raw Materials

The consumption of pulpwood in all mills making pulp, whether purchased or cut from own limits, was 2,104,334 cords, of the value of $18,817,483, in 1917, as compared with 1,764,912 cords, valued at $13,104,458, in 1916, and 1,405,836 cords, valued at $9,426,217, in 1915, or an increase of 688,498 cords, or nearly 49.7 per cent. in the two-year period. The average price per cord was $6.71 in 1915, $7.42 in 1916, and $8.94 in 1917, an increase of $2.23 per cord, or nearly 33.2 per cent. in the two years.

The order of importance of the five provinces remained the same as in 1916, Quebec leading with 1,109,869 cords, or over half the total. Ontario was second with 735,691 cords, or over a third of the total. British Columbia was third with 134,814 cords, New Brunswick fourth with 105,586 cords, and Nova Scotia last with 18,374 cords. The quantity of pulpwood consumed in each province is an increase in every case, as is the average value per cord of wood.

Spruce continues to lead all classes of wood, being 79.7 per cent. of the total in 1917, balsam fir and hemlock being next in order of importance. These three woods all show increases from 1916. Poplar and pine show decreases from the preceding year, and tamarack and cedar are reported from British Columbia for the first time in several years.

The greatest proportion of the wood used still goes into the manufacture of ground wood-pulp, although the three



For Muscalunge and Bass-
the Ontario Resorts

BALA (Muskoka Lakes)
FRENCH RIVER (French and Pickerel Rivers)
POINT AU BARIL (Georgian Bay Resorts)
BOBCAYGEON (Kawartha Lakes)
SEVERN RIVER (Gloucester Pool)
BON ECHO (Lake Mazinaw)

are conveniently reached by the

CANADIAN PACIFIC RAILWAY

W. B. HOWARD,
District Passenger Agent,
Toronto

The Canadian Wood Turpentine—made at our mills at LaTuque, P. Q., is an excellent diluent and solvent and contains no free rosin.

Further information will gladly be sent upon request.

BROWN CORPORATION

Sales Office: *Portland, Maine, U. S. A.*

STEEL FACTORY EQUIPMENT



Steel Waste Paper Basket

Steel Shop Boxes, Foundry Boxes, Shelf Boxes, Shop Barrels, Stools, Oily Waste Cans, Garbage Cans

Gasoline Tanks and Pumps, Pressure Tanks, Storage Tanks, Smoke Stacks

Anything in Black or Galvanized Sheet Metal up to ⅛ thickness. Send blue print or rough drawing and get our prices.

Sheet Steel Sundries for the manufacturers is one of our specialties.

Write us.

The Steel Trough and Machine Co., Limited
Tweed, Ont., Canada



CANADIAN CHICAGO BRIDGE AND IRON COMPANY
Limited
Bridgeburg, Ontario

ELEVATED STEEL TANKS
For Municipal, Railroad and Factory Service

Storage Tanks, Self-Supporting Steel Stacks and All Classes of Heavy Plate Metal Work

Write our nearest sales office to-day for prices, plans and specifications. Our catalogue No. 25 gladly mailed to you, upon request.

OFFICES:
Bridgeburg, Ont., Can., 121 Janet St.
Chicago, Ill., 1315 West 105th Street
New York, 3132 Hudson Terminal Bldg.

SHOPS:
Bridgeburg, Ontario
Greenville, Pa. (Pittsburg District)
Chicago, Illinois

ESTABLISHED 1875

The Boiler Inspection and Insurance Co. of Canada

Continental Life Building, Toronto

Issues Policies of Insurance after a Careful Inspection of the Boilers Covering Loss or Damage to Property and Loss Resulting from Loss of Life and Personal Injuries. Policies Guaranteed by The Hartford Steam Boiler Inspection and Insurance Company.

Assets for Security of Policyholders, $4,552,020.43.

H. N. ROBERTS . . . . . President
OLAF E. GRANBERG . . . . . Vice-President
JAMES P. BYRNE . . . . . Secretary
M. B. ROBINSON . . . . . Asst. Secretary

chemical processes are making heavier demands on the wood supply each year. In 1915, 52.9 per cent. of the wood was used in making ground wood-pulp. In 1916 this proportion decreased to 46.9 per cent., and a further decrease to 45.8 per cent. is recorded for 1917. The increase in the proportion of wood used for the manufacture of chemical pulp does not represent an equal increase in the production of pulp by these methods. Where over a ton of pulp per cord of wood is produced on the average by the mechanical process, only 1,105 pounds are produced by the sulphate process, 1,063 by the sulphite process, and only 930 pounds by the soda process.

The Mechanical Process

The mechanical process does not demand the use of the most expensive grades of wood, and the average value, $8.07 per cord, is therefore the lowest on the list. Certain species, such as jack pine, which cannot be used to advantage in other processes, are useful in making kraft pulp, and the average value of wood used in the sulphate process, $8.10 per cord, is also low. The best quality of pulpwood goes into the manufacture of sulphite at $10.18, and soda pulp at $10.07 per cord.

For the mechanical process the highest average number of pounds of pulp produced per cord of wood was 2,305 in British Columbia, and the lowest 1,818 in Nova Scotia, the average for the Dominion being 2,043 pounds per cord. By the sulphite process in the manufacture of paper the highest average, 1,137 pounds, is again found in British Columbia, and lowest, 961 pounds, in Ontario, the average for the Dominion being 1,063 pounds. The sulphate process shows highest in Ontario with 1,176 pounds and lowest in Quebec with 1,063 pounds, the average for the Dominion being 1,105 pounds. The soda process shows the lowest production, viz., 930 pounds per cord.

The quantity and value of pulp used in the manufacture of paper, whether produced or purchased, includes ground wood, 617,029 tons, with a cost valuation of $9,984,597; sulphite fibre, 239,129 tons, valued at $10,613,617; sulphate fibre, 28,822 tons, valued at $1,773,029; and soda fibre, 6,001 tons, of a value of $448,746. The value of other materials used, such as rags, old or waste paper, alum, etc., was $5,797,445. The total cost of all materials used was $28,617,434.

Capital Invested

The report shows a total capital investment of $186,787,405, of which $84,609,584 was in Quebec, $72,006,972 in Ontario, and $22,584,652 in British Columbia. Land and buildings represent an investment of $84,461,837, machinery of $59,266,596, whilst working capital was $15,156,506.

Over 76 per cent. of the total investment is in the class of combined mills, 19 per cent. in mills producing pulp only, and nearly 5 per cent. in mills making paper only.

Each province shows an increase in capital over 1915 except Nova Scotia, where the decrease amounted to $199,030. British Columbia's capital investment rose from $8,344,416 in 1915 to $22,584,652 in 1917; New Brunswick from $3,927,858 to $7,136,277; Ontario from $57,173,623 to $72,006,972, and Quebec from $63,641,956 to $84,609,584.

The average total capital invested in pulp mills was $1,057,610; in pulp and paper mills, $6,192,365; and in paper mills, $323,241.

The total yearly capacity of mills making ground wood-pulp in the Dominion was 1,088,431 tons, dry weight, of which Quebec's equipment represented 601,436 tons or 55.2 per cent. Ontario represented 357,250 tons, or 32.8 per cent., followed by British Columbia with 100,600 tons, or 9.2 per

Your Vacation

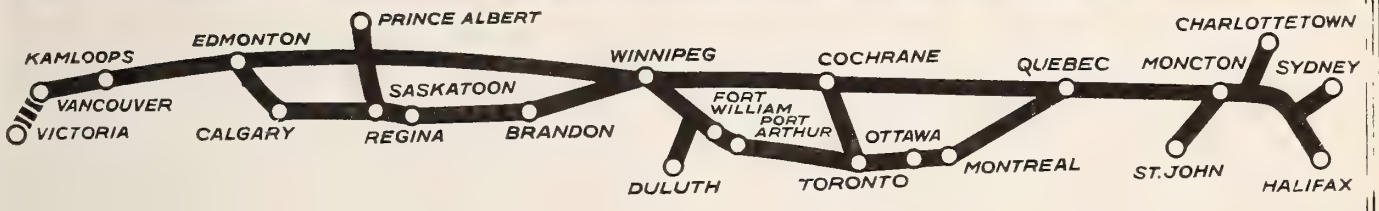
For Health and Rest

Fishing or Hunting

Scenic or Historic Interest

Business and Pleasure Combined

Canadian National Railways



Publications which will assist in making your selection

NOTES BY THE WAY, Montreal and Maritime Provinces;
NOTES BY THE WAY, Quebec to Winnipeg;
NOTES BY THE WAY, Montreal to Winnipeg;
NOTES BY THE WAY, Winnipeg to the Prairies, Rockies and Pacific Coast.

OUT OF DOOR, Quebec and the Maritime Provinces;
OUT OF DOOR, Quebec, New Ontario and Eastern Manitoba
GRAND BEACH, VICTORIA BEACH, LAKE WINNIPEG;

Where to Fish and Hunt
Muskoka
Algonquin Park
Lake Vermillion
British Columbia Fishing Waters
Minaki
Quebec Bridge
Prince Edward Island
St. John River Valley
Summer Provinces by the Sea
Storied Halifax

Write for free copies to

H. H. Melanson
Passenger Traffic Manager
TORONTO, ONT.

cent., New Brunswick with 21,145 tons, or 19 per cent., and Nova Scotia with 8,000 tons, or less than one per cent. The actual output of ground wood-pulp in 1917 was 923,731 tons.

The quantities and values of the different kinds of paper products are shown by the following table:

	Tons.	Value.
Newsprint paper	689,847	$38,868,084
Book and writing paper	48,141	9,310,138
Wrapping paper	50,360	5,646,750
Boards	54,080	3,543,164
Other paper products	11,261	1,487,122
All other products (value only)	.....	3,438,107

The average value per ton for each group was as follows: Newsprint, $56.35; book and writing papers, $193.40; wrapping paper, $112.12; boards, $65.50; and other paper products, $132.06.

Capital investment in pulp and paper mills for the years mentioned are summarized in the report as follows:

	1915.	1917.	Increase.
Land, buildings and fixtures	$74,383,608	$84,461,837	$10,078,229
Machinery and tools	31,856,265	59,266,596	27,410,331
Materials on hand, stocks in process, etc.	17,254,317	27,902,466	10,648,149
Cash, trading and operating accounts, etc.	10,242,613	15,156,506	4,913,893
Totals	$133,736,803	$186,787,405	$53,050,602

Imports and Exports

The total quantity of wood pulp exported in 1917 was 511,803 tons, of the value of $26,129,906, of which 250,043 tons, valued at $7,082,206, was mechanical, and 261,760 tons, valued at $19,110,700, was chemical pulp. There was a decided falling off in the exports of mechanical pulp, amounting to 79,709 tons, though the value shows an increase of $1,432,841. On the other hand, there was a marked increase in the export of chemical pulp, amounting to 32,613 tons, and a correspondingly marked increase in the value amounting to $7,415,823. More than 92.5 per cent. of the quantity and 88 per cent. of the value of all pulp was exported to the United States. The average value per ton for all kinds of pulp exported was $51.17 in 1917, as compared with $31.03 in 1916, and $25.48 in 1915. Mechanical pulp rose from $15.67 per ton in 1915 to $17.13 in 1916, and $28.32 in 1917. Chemical pulp, which was 38.36 per ton in 1915, rose to $51.04 in 1916, and $73.01 in 1917.

Increase in Paper Imports

No pulpwood is imported into Canada.

The total value of paper imported increased from $2,402,557 in 1915 to $4,204,968 in 1917. The total value of paper exported in 1915 was $18,430,013, while the total value exported in 1917 was $35,774,636. That is, our imports of paper in 1917 increased in value over those of 1915 by $1,802,411, or by 75 per cent., while our exports of paper in the same period increased by $17,344,623, or by 94.1 per cent.

FIVE-TON SCALE FOR SALE

This is Fairbanks-Morse make in first-class order and is a dormant platform scale for weighing material in truck loads. It will be sold at a bargain.

DOMINION SHEET METAL CORPORATION, LTD., Hamilton, Ont.

HON. FINLAY G. MACDIARMID,
Minister of Public Works

W. A. RIDDELL, M.A., Ph.D.,
Superintendent Trades and Labour

TRADES AND LABOUR BRANCH
DEPARTMENT OF PUBLIC WORKS

ONTARIO GOVERNMENT PUBLIC EMPLOYMENT BUREAUS are in operation in the towns and cities listed below:

BELLEVILLE	LINDSAY	PORT ARTHUR
BRANTFORD	LONDON	SARNIA
BROCKVILLE	NIAGARA FALLS	SAULT STE. MARIE
CHATHAM	NORTH BAY	ST. CATHARINES
COBALT	ORILLIA	ST. THOMAS
FORT WILLIAM	OSHAWA	STRATFORD
GALT	OTTAWA	SUDBURY
GUELPH	OWEN SOUND	TIMMINS
HAMILTON	PEMBROKE	TORONTO (3)
KINGSTON	PERTH	WELLAND
KITCHENER	PETERBOROUGH	WINDSOR

Ontario employers of labour have asked the bureaus for workers in 349 different trades and occupations, and in the majority of cases the required help has been supplied.

Are you getting your help through the medium of the employment service, which you as a taxpayer are helping to support?

It will be to our mutual advantage for you to get in touch with the nearest bureau and let us help you to solve your employment problems. The value of these bureaus will increase in proportion to the extent to which they are used by employers.

THESE BUREAUS ARE THE ONTARIO UNITS OF THE RECENTLY-ORGANIZED EMPLOYMENT SERVICE OF CANADA

Buyers' Guide to Canadian Manufactures

List of Articles which will Enable the Purchaser to Know the Manufacturers of Made-in-Canada Goods. For Rates of Insertion in this Department write to the Advertising Manager of INDUSTRIAL CANADA, C.M.A., Toronto, Ont.

ABATTOIR MACHINERY AND SUPPLIES
*The John Whitfield Company, Toronto, Ont.

ABRASIVES
*Coralox, Limited, Hamilton, Ont.
*Canadian Hart Wheels, Limited, Hamilton, Ont.
*Dominion Abrasive Wheel Co., New Toronto, Ont.

ACCOUNT BOOKS
*The Brown Bros., Ltd., Toronto.

ACETYLENE GAS
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.

ACETYLENE GAS BURNERS
Economic Acetylene Burner Co., Toronto, Ont.
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.

ACIDS
*The Grasselli Chemical Co., Ltd., Toronto.
*The Nichols Chemical Co., Ltd., Montreal, Que.

ADVERTISING NOVELTIES
Lawson & Jones, Ltd., London, Ont.

AERATED BEVERAGES
Charles Gurd & Co., Ltd., Montreal, Que.
J. J. McLaughlin, Ltd., Toronto.

AIR COMPRESSORS
*Canadian Ingersoll-Rand Co., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

AIR DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

ALCOHOL
*Canadian Industrial Alcohol Company, Ltd., Montreal, Que.
Hiram Walker & Sons, Limited, Walkerville, Ont.

ALUMINUM
*Northern Aluminum Co., Ltd., 1805 Traders Bank, Toronto,

ALUMINUM CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

AMMONIA
Canadian Ammonia Co., Ltd., Toronto, Ont.

ANCHORS, all steel
Beauchemin & Fils, Ltd., Sorel, Que.

ANGLE BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*The Steel Company of Canada, Ltd., Hamilton, Ont.

ARSENIC
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.

ASBESTOS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS SHEATHING
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS SHEET AND PISTON PACKINGS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS STEAM PIPE AND BOILER COVERINGS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS TEXTILES
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ATTACHMENT PLUGS
*Crouse-Hinds Co., Ltd., Toronto.

AUTOGRAPHIC REGISTERS
*Autographic Register Co., Ltd., Montreal, Que.

AUTOGRAPHIC REGISTER SYSTEMS
Business Systems, Ltd., Toronto.

AUTOMOBILE ACCESSORIES
*McKinnon Industries Limited, St. Catharines, Ont.
*Northern Electric Co., Limited, Montreal, Que.
*Tallman Brass & Metal Co., Hamilton, Ont.

AUTOMOBILE PARTS
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.

AWNING CORD (cotton)
Hamilton Cotton Co., Hamilton, Ont.

AXLES
Canada Forge Co., Ltd., Welland, Ont.
Guelph Spring & Axle Co., Ltd., Guelph, Ont.

AXLES, carriage and automobile
Guelph Spring & Axle Co., Ltd., Guelph, Ont.

BABBITT METAL
Alonzo W. Spooner, Ltd., Port Hope, Ont.
*The Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BACON
E. W. Fearman Co., Ltd., Hamilton, Ont.

BAGS
*Scythes & Co., Ltd., Toronto.

BAGS, Cotton
The Canadian Bag Co., Limited, Montreal, Que.

BAGS, jute
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Ltd., Toronto.

BAGS, travelling
J. Eveleigh & Co., Ltd., Montreal.
Lamontague, Ltd., Montreal, Que.
The M. Langmuir Mfg. Co., of Toronto, Ltd., Toronto, Ont.

BAND RESAWS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

BAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

BANK FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.

BANK AND OFFICE RAILINGS AND CAGES
*Canada Wire and Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*The Geo. B. Meadows, Toronto, Wire, Iron & Brass Works Co., Ltd., Toronto, Ont.

BANK SIGNS AND FITTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

BARRELS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

BARS, iron
London Rolling Mill Co., Ltd., London, Ont.

BARS, steel
London Rolling Mill Co., Ltd., London, Ont.

BASEBALL GOODS
A. J. Reach Co., Brantford, Ont.

BATHS, enamelled
Amherst Foundry Co., Ltd., Amherst, N.S.

BATTERIES, dry
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BATTERIES, Flashlight
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BATTERIES, Storage
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BEARINGS
*The Chapman Double Ball Bearing Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BEARINGS, bronze
*Tallman Brass & Metal Co., Hamilton, Ont.

BEARINGS, pillow block and upright
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BEDS, camp folding
*Otterville Mfg. Co., Ltd., Otterville, Ont.

BEEF
E. W. Fearman Co., Ltd., Hamilton, Ont.

BELTING, chains
*Canadian Link-Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BELTING, elevator
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.

BELTING, leather
The Beardmore Belting Co., Ltd., Toronto, Ont.
*J. L. Goodhue & Co., Danville, Que.
*Sadler & Howarth, Montreal.
*The D. K. McLaren Belting Co., Ltd., Montreal, Que.
*The J. C. McLaren Belting Co., Ltd., Montreal, Que.

BELTING, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha and Rubber Ltd., Toronto, Ont.

BELTING, stitched cotton duck
*Dominion Belting Co., Ltd., Hamilton, Ont.

BENT GOODS
The Crown Lumber Co., Woodstock, Ont.

BICYCLES AND ACCESSORIES
*Canada Cycle and Motor Co., Ltd., Toronto, Ont.

BISCUITS
The Montreal Biscuit Co., Montreal, Que.

BLACK SHEETS
*A. C. Leslie & Co., Montreal, Que.

BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Ltd., Bolton, Ont,

BLANKETS, horse
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Ltd., Bolton, Ont.

BLASTING ACCESSORIES
Canadian Explosives, Ltd., Montreal, Que.

BLEACHING POWDER
Canadian Salt Co., Ltd., Windsor Ont.

BLOWERS
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

BOATS OF ALL KINDS
Peterboro Canoe Co., Ltd., Peterboro, Ont.

BOBBINS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.

BOILER COMPOUND AND OILS
Electric Boiler Compound Co., Ltd., Guelph, Ont.

BOILERS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Darling Bros., Montreal, Que.
*Goldie & McCulloch Co., Limited, Galt, Ont.
*Lauzon Engineering Ltd., Levis, Que.
J. & R. Weir, Montreal, Que.
Taylor-Forbes Co,, Ltd., Guelph,
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BOILERS, hot water or steam
Steel & Radiation Ltd., Toronto.
Warden King, Ltd., Montreal.

BOILERS, steam
Canadian Ingersoll-Rand Co., Sherbrooke, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BOILERS, steam and brass work
*The Waterous Engine Works Co., Ltd,, Brantford, Ont.

BOILER STANDS
Anthes Foundry Ltd., Toronto.

BOLSTERS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.

BOLTS AND NUTS
*The Canadian Tube & Iron Co., Ltd., Montreal, Que.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Company of Canada, Ltd., Hamilton, Ont.
Starr Mfg. Co., Ltd., Dartmouth, N.S.

BOOKBINDERS
R. G. McLean, Toronto.
*The Brown Bros., Ltd., Toronto.
The Mortimer Co., Ltd., Ottawa, Ont.

BOOKCASES
*Office Specialty Mfg. Co., Ltd,, Newmarket, Ont.

BOOKCASES, sectional (Gunn)
The George McLagan Furniture Co., Ltd., Stratford, Ont.

BOOKLETS
R. G. McLean, Toronto.

BOOKS, blank
*The Brown Bros., Ltd., Toronto.

BOOTS AND SHOES
Ames-Holden-McCready, Limited, Montreal, Que.
J. Leckie Co., Ltd.
The John Ritchie Co., Ltd., Quebec, Que.

BOXES
*Crouse-Hinds Co., Ltd., Toronto.

BOXES, cellular board
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls.

BOXES, rattle and soap
The Arlington Co. of Canada, Ltd., Toronto, Ont,

BOXES, steel shop
*Steel Trough and Machine Co., Ltd., Tweed, Ont.

BOXES AND SHOOKS, wooden
The C. Beck Mfg. Co., Ltd., Penatanguishene, Ont.

BOXES, wooden
G. & J. Esplen, Montreal, Que.
Barchard & Co., Ltd., Toronto.

BOXBOARDS, for making paper boxes
*Canada Boxboard Co., Limited, Montreal, Que.

BRAIDS AND TRIMMINGS
The Moulton Mfg. Co., Limited, Montreal, Que.

BRAKE SHOES
*Canadian Hart Wheels, Limited, Hamilton, Ont.

BRAKE SHOE BACKS
*The John Whitfield Company, Toronto, Ont.

BRANDS, burning
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

*For Display Advertisement see Index, Page 43

BRASS BOLTS AND NUTS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS AND BRONZE WIRE
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

BRASS, BRONZE and ALUMINUM LETTERS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS ENGRAVERS
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

BRASS FOUNDERS AND FINISHERS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS GOODS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Mueller Mfg. Co., Sarnia, Ont.
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
*The Kerr Engine Co., Limited, Walkerville, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS PLATES
Geo. Booth & Son, Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS RODS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS RODS, SHEETS AND PLATES
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

BRASS SHEETS AND PLATES
*Dominion Copper Products Company, Ltd., Montreal, Que.

BRASS SIGNS AND MEMORIALS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS TUBING, seamless
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Company, Ltd., Montreal, Que.

BRASS WIRE
Canadian Seamless Wire Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS WORK, church
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

BRASS WORK, special
Bawden Machine Co., Ltd., Toronto, Ont.
*H. Mueller Mfg. Co., Ltd., Sarnia, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BRICK
National Brick Co. of Laprairie, Paprairie, Que,
Port Credit Brick Co., Port Credit, Ont.
The Citadel Brick & Paving Block Co., Ltd., Quebec, Que.

BRICK, enamel
National Brick Co. of Laprairie, Laprairie, Que.

BRICK, pressed
National Brick Co. of Laprairie, Laprairie, Que.
The Citadel Brick & Paving Block Co., Ltd., Quebec, Que.

BRICK, rubbing
*Canadian Hart Wheels, Limited, Hamilton, Ont.

BRICK, sewer.
National Brick Co. of Laprairie, Laprairie, Que.

BRIDGES, Railway and Highway
*Hamilton Bridge Works Co., Ltd., Walkerville, Ont.
*The Canadian Bridge Co., Ltd., Hamilton, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
*Dominion Bridge Co., Montreal.
*Mackinnon Steel Co., Ltd., Sherbrooke, Que.
*Manitoba Bridge & Iron Works, Ltd., Winnnpeg, Man,

BROOMS
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Limited, Port Elgin, Ont.

BRONZE SHEETS AND PLATES
*Dominion Copper Products Company, Ltd., Montreal.

BRONZE SHEETS, RODS, PLATES
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

BRONZE TUBING, seamless
*Dominion Copper Products Company, Limited, Montreal.

BRUSHES
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Ltd., Port Elgin, Ont.

BRUSHES, carbon
Canadian National Carbon Co., Ltd., Toronto.

BUCKET TANKS
*MacKinnon Steel Co., Ltd,, Sherbrooke, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.

BUCKLES, shoe and coat
Parmenter & Bulloch Co., Limited, Gananoque, Ont.

BUCKLES, harness and trunk
*McKinnon Industries, Ltd., St. Catharines, Ont.

BUILDING BLOCKS, vitrified, salt glazed
Standard Clay Products, Ltd., St. Johns, Que.

BUILDING FELT AND PAPER
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont,
*The Barrett Co., Ltd., Toronto and Montreal.

BURLAPS
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Ltd., Toronto.

BURLAPS, decorative
Dominion Oil Cloth Co., Limited, Montreal, Que.

CABLE ACCESSORIES
*Crouse-Hinds Co., Ltd., Toronto.

CABLES, electric light, power, telephone and telegraph
*Standard Underground Cable Co. of Canada, Ltd,, Hamilton, Ont.

CABLES, transmission and telephones
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.

CABLES, transmission and cable
*Northern Electric Co., Ltd., Montreal, Que.

CABLES, wire
The Dominion Wire Rope Co., Ltd., Montreal, Que.
*The B. Greening Wire Co., Ltd., Hamilton, Ont.

CALENDARS, ADVERTISING NOVELTIES, etc.
Lawson & Jones, Ltd., London.

CAMERAS
Canadian Kodak Co., Ltd., Toronto, Ont.

CAMPERS' OUTFITTERS
Slingsby Mfg. Co., Ltd., Brantford, Ont.

CANADA SILVER
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

CANOES
Peterboro Canoe Co., Ltd., Peterboro, Ont.
*Canadian Canoe Co., Ltd., Peterboro, Ont.

CANS, baking powder, etc.
American Can Co., Montreal (Que.) and Hamilton (Ont.).
A. R. Whittall Can. Co., Ltd., Montreal, Que.

CANS, fruit
American Can Co., Montreal (Que.) and Hamilton (Ont.).
A. R. Whittall Can. Co., Ltd., Montreal, Que.

CANS, iron, lead and putty
A. R. Whittall Can. Co., Ltd., Montreal, Que.

CANS, tin
A. R. Whittall Can Co., Ltd., Montreal, Que.
American Can Co., Montreal (Que.) and Hamilton (Ont.).

CANVAS
*Scythes & Co., Ltd., Toronto, Ont.

CAPS, cloth
John W. Peck & Co., Ltd., Montreal, Que.

CAPS FOR HUBS
*McKinnon Industries, Ltd., St. Catharines, Ont.

CARBIDE
*Canada Carbide Co., Ltd., Montreal, Que.
*Union Carbide Co. of Canada, Ltd. Works, Welland, Ont. Head Office, Toronto, Ont.

CARBONS, electric
Canadian National Carbon Co., Ltd., Toronto, Ont.

CARBONS (headlight)
*Crouse-Hinds Co., Ltd., Toronto.

CARBONIC ACID GAS
Canadian Carbonate Co., Montreal.

CARD RECORD SYSTEMS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

CARPETS AND RUGS
Toronto Carpet Mfg. Co., Limited, Toronto.

CARPETS AND RUGS, Axminster and ingrain
Toronto Carpet Mfg. Co., Ltd.

CARPETS AND RUGS, Brussels and Wilton
Toronto Carpet Mfg. Co., Ltd., Toronto, Ont.

CARPET YARNS, worsted and wool
Toronto Carpet Mfg. Co., Ltd., Toronto, Ont.

CARRIAGE CASTINGS
*McKinnon Industries, Ltd., St. Catharines, Ont.

CARRIAGES, baby, etc.
Canada Furniture Manufacturers, Ltd., Woodstock, Ont.

CARRIERS
*Richards-Wilcox Canadian Co., Ltd., London, Ont.

CARRIERS, box and barrel
*Canadian Mathews Gravity Carrier.

CARRIERS, brick
*Canadian Mathews Gravity Carrier Co., Limited, Toronto.
*Richards-Wilcox Canadian Co., Ltd., London, Ont.

CARS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*National Steel Car Co., Ltd., Hamilton, Ont.

CARS, industrial
Hammant Steel Car & Engineering Works, Hamilton, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.

CARTONS, lithographed
Harris Lithographing Co., Ltd., Toronto, Ont.

CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, aluminum
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, brass
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Lauzon Engineering, Ltd., Levis, Que.
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, brass and bronze
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, grey iron
*Canadian Rumely Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Dodge Mfg. Co., Toronto.
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Wm. Kennedy & Sons, Ltd., Owen Sound, Ont.
*Lauzon Engineering, Ltd., Levis, Que.

CASTINGS, malleable iron
*Crouse-Hinds Co., Ltd., Toronto.
*Galt Malleable Iron Co., Ltd., Galt, Ont.

CASTINGS, steel
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Founderies, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton, Ont.
*Hull Iron & Steel Foundry, Ltd., Hull, P.Q.
*Wm. Kennedy & Sons, Ltd., Owen Sound, Ont.

CATALOGUE MAKERS
Grip, Ltd., Toronto, Ont.

CATALOGUE COVERS, by new lithographing process
Harris Lithographing Co., Ltd., Toronto, Ont.

CAUSTIC SODA
Canadian Salt Co., Ltd., Windsor.

CAUSTICS
*Dominion Oil Co., Ltd., Hamilton.

CELLBOARD
Adams Cellboard Co., Toronto.

CEMENT GUNS
Steel & Radiation, Ltd., Toronto.

CENTRIFUGAL PUMPS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

CHAINS, for elevators, conveyors and drives
*Canadian Link-Belt Co., Toronto.

CHAINS, sling
*The John Whitfield Co., Toronto.

CHAIRS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

CHAIRS, assembly hall
Stratford Mfg. Co., Ltd., Stratford, Ont.

CHAIRS, folding
Stratford Mfg. Co., Ltd., Stratford, Ont.

CHAIRS, rattan and upholstered
Imperial Rattan Co., Ltd., Stratford, Ont.

CHAIRS FOR AUTOMOBILES, camp, boat
*McKinnon Industries, Ltd., St. Catharines, Ont.

CHECKS, swing checks, etc.
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

CHEMICALS
Canadian Laboratory Supplies, Ltd., Toronto, Ont.
*Dominion Oil Co., Ltd., Hamilton, Ont.
*The Grasselli Chemical Co., Ltd., Toronto, Ont.
*The Nichols Chemical Co., Ltd., Montreal, Que.

CHEMISTS, industrial
*Milton Hersey Co., Montreal.

CHICLETS AND CHEWING GUM
Canadian Chewing Gum Co., Ltd., Toronto, Ont.

CIGARETTES AND TOBACCO
Philip Morris & Co., Ltd., Montreal, Que.

CIRCULAR CUTTERS, solid steel
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Ltd., Galt, Ont.

CIRCULAR SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

CLAM SHELL BUCKETS
*M. Beatty & Sons, Ltd., Welland, Ont.

CLOCKS, time
*International Business Machines Co., Ltd., Toronto.

CLOCKS, watchmen's
*The Bennett & Wright Co., Ltd., Toronto, Ont.

CLOSET SEATS
*Goderich Organ Co., Goderich,Ont.

CLOTHING
John W. Peck & Co., Ltd., Montreal, Que.

CLOTHING, leather and sheepskin lined coats
*A. R. Clarke & Co., Ltd., Toronto.

CLOTHING, Mackinaw
The Carss Mackinaw Clothing Co., Ltd., Orillia, Ont.

CLOTHES LINES, cotton
Hamilton Cotton Co., Hamilton, Ont.

CLUTCHES
*Dodge Mfg. Co., Ltd., Toronto.

CLUTCHES, conveyors
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

*For Display Advertisement see Index, Page 43

COAL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
Standard Fuel Co., Toronto, Ont.
COAL CUTTERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal.
COBALT OXIDE
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
The Coniagas Reduction Co., Ltd., St. Catharines, Ont.
COBALT METAL
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
COFFEE
S. H. Ewing & Sons, Montreal.
COLD DRAWN SHAPES, flats, squares and hexagons
*The Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.
COLD STORAGE DOORS
John Hillock & Co., Ltd., Toronto.
COLLAR BUTTONS
The Arlington Co. of Canada, Ltd., Toronto, Ont.
COLLARS
The Standard Shirt Co., Ltd., Montreal, Que.
COLLARS, coated linen
Parsons & Parsons Canadian Co., Hamilton, Ont.
COLLARS, shaft
Bond Engineering Co., Toronto.
COLORS
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal.
COMBS, fine dressing and name
The Arlington Co. of Canada, Ltd., Toronto, Ont.
COMMERCIAL STATIONERY
*Brown Bros., Ltd., Toronto, Ont.
CONCRETE COATINGS, PAINTS, Etc.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
CONDUITS FOR INTERIOR WIRING
*Conduits Co., Ltd., Toronto, Ont.
CONDULET BOX FITTINGS
*Crouse-Hinds Co., Ltd., Toronto.
CONDULETS (marine)
*Crouse-Hinds Co., Ltd., Toronto.
CONFECTIONERY
Ganong Bros., Ltd., St. Stephens, N.B.
Moirs, Ltd., Halifax, N.S.
The Montreal Biscuit Co., Montreal, Que.
CONTAINER BOARD—strong container
Bathurst Lumber Co., Ltd., Bathurst, N.B.
CONTRACTOR'S PLANT
*M. Beatty & Sons, Ltd., Welland, Ont.
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
Canadian Ingersoll-Rand Co., Sherbrooke, Que.
CONVEYORS
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
COPPER
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
COPPER, SHEETS, PLATES, BARS, RODS
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto, Ont.
COPPER SHEETS AND PLATES
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Co., Ltd., Montreal, Que.
COPPERSMITHS
*Booth-Coulter Copper & Brass Co. Ltd., Toronto, Ont.
COPPER TUBING, seamless
*Dominion Copper Products Co. Ltd., Montreal, Que.
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.

COPPER WIRE
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
CORKS
S. H. Ewing & Sons, Montreal, Que.
CORK CARPET
Dominion Oil Cloth Co., Ltd., Montreal, Que.
CORRUGATED PAPER BOXES
Adams Cellboard Co., Toronto.
Corrugated Paper Box Co., Ltd., Toronto, Ont.
*Hinde & Dauch Paper Co., Toronto, Ont.
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
CORUNDUM, artificial
*Coralox, Ltd., Hamilton, Ont.
CORSETS
Dominion Corset Co., Quebec, Que.
COTTONS
*Dominion Textile Co., Ltd., Montreal, Que.
*Montreal Cottons, Ltd., Valleyfield, P.Q.
COTTONADES
Hamilton Cotton Co., Hamilton, Ont.
COUPLERS
*Canadian Steel Foundries, Ltd., Welland, Ont.
COUPLINGS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
CRANES
*Northern Crane Works, Walkerville, Ont.
*The Herbert Morris Crane and Hoist Co., Ltd., Niagara Falls, Ont.
CRANKSHAFTS
Canada Forge Co., Ltd., Welland, Ont.
*The John Whitfield Co., Toronto, Ont.
CREAM CHEESE, Ingersoll
The Ingersoll Packing Co., Ltd., Ingersoll, Ont.
CREAM SEPARATORS AND MILK CLARIFIERS
De Laval Dairy Supply Co., Peterboro, Ont.
The Renfrew Machinery Co., Ltd., Renfrew, Ont.
CREAMERY AND CHEESE FACTORY MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
CREOSOTED MATERIALS
*The Barrett Co., Ltd., Toronto and Montreal.
CRUCIBLES, plumbago
Dominion Crucible Co., Ltd., Montreal, Que.
CRUSHED STONE
The Hagersville Contracting Co., Ltd., Hagersville, Ont.
CUPOLAS
*Sheldons, Ltd., Galt, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
CUPS, presentation
Standard Silver Co., Toronto, Ont.
CURLED HAIR
*Delany & Pettit, Ltd., Toronto.
CURTAINS, chenille
Hamilton Cotton Co., Hamilton, Ont.
CUTLERY
Standard Silver Co., Toronto, Ont.
CUTTERS, machine
*Pratt & Whitney Co., Dundas, Ont.
DASHES, for buggy and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
DECALCOMANIA TRANSFERS
Canada Decalcomania Co., Toronto, Ont.
DECK PLUGS, electric marine
*Crouse-Hinds Co., Ltd., Toronto.
DENIMS
Hamilton Cotton Co., Hamilton, Ont.
DERAILS
*Canadian Hart Wheels, Ltd. Hamilton, Ont.
DESIGNERS
Ontario Engraving Co., Hamilton Ont.
DESIGNERS AND PRINTERS OF BOOKLETS, Etc.
Grip, Ltd., Toronto, Ont.

DESKS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
DESICCATED VEGETABLES
Grahams, Ltd., Belleville, Ont.
DINING ROOM SUITES
The George McLagan Furniture Co., Ltd., Stratford, Ont.
DIES
*Butterfield & Co., Rock Island, P.Q.
*Pratt & Whitney Co., Dundas, Ont.
*John Whitfield Co., Toronto.
DISINFECTING APPARATUS
Spramotor Co., London, Ont.
DOOR HANGERS
*Richards Wilcox Canadian Co., Ltd., London, Ont.
DOUBLETREES
*McKinnon Industries, Ltd., St. Catharines, Ont.
DREDGES
*M. Beatty & Sons, Ltd., Welland, Ont.
DRESSING, belt
Sadler & Haworth, Montreal, Que.
DRESS AND CLOAK TRIMMINGS
J. Henry Peters Co., 1 Mincing St., Toronto, Ont.
DRIFT BOLT DRIVERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILL PRESSES
*Canada Machinery Corporation, Ltd., Galt, Ont.
DRILL SHARPENERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILLS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*Pratt & Whitney Co., Dundas, Ont.
DRILLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILLS, rock
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRIFT BOLTS OR SPIKES
London Rolling Mill Co., Ltd., London, Ont.
DROP FORGINGS.
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
DROP HAMMERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
DRUMS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
DRY COLORS
P. D. Dods & Co., Ltd., Montreal.
The Imperial Varnish & Color Co., Ltd., Toronto.
R. C. Jamieson & Co., Ltd., Montreal, Que.
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
DUMB WAITERS
Turnbull Elevator Mfg. Co., Toronto, Ont.
DURABLE WIRE ROPE
The Dominion Wire Rope Co., Ltd., Montreal, Que.
DYNAMITE
Canadian Explosives, Ltd., Montreal, Que.
DYNAMOS
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
DYNAMOS, plating
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
EIDERDOWN
Galt Knitting Co., Ltd., Galt, Ont.
ELECTRIC APPLIANCES
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
ELECTRICAL COMPOUNDS
Standard Paint Co. of Canada, Ltd., Montreal, Que.
ELECTRIC COOKING APPLIANCES
*Canadian General Electric Company, Ltd., Toronto.
ELECTRIC LAMPS
Packard Electric Co., Ltd., Toronto, Ont.

ELECTRIC PLATE WARE
Roden Bros., Ltd., Toronto, Ont.
ELECTRIC BRANDING TOOLS
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
ELECTRIC RAILWAY EQUIPMENT
*Crouse-Hinds Co., Ltd., Toronto.
ELECTRODES, carbon
Canadian National Carbon Co., Ltd., Toronto, Ont.
ELECTROPLATING
Central Press Agency, Toronto.
ELECTRICAL SUPPLIES
*Canadian General Electric Company, Ltd., Toronto, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
*Jones & Moore Electric Co., Ltd.,
*Northern Electric Co., Ltd., Montreal, Que.
ELECTRIC SOLDERING IRON
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
ELECTRO-SILVER PLATED WARE
Standard Silver Co., Toronto, Ont.
ELEVATING MACHINERY
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto, Ont.
ELEVATORS
*Jenckes Machine Co., Sherbrooke, Que.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
Turnbull Elevator Mfg. Co., Toronto, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
ELEVATORS FOR ALL PURPOSES
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
ELEVATOR GATES AND DOORS
Turnbull Elevator Mfg. Co., Ltd., Toronto, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
ELEVATOR GUARDS
*The Geo. B. Meadows, Toronto. Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
*Canada Wire and Iron Goods Co., Hamilton, Ont.
EMERY DRESSERS AND STANDS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY GRINDERS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY WHEELS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY WHEEL GUARDS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
ENAMELS
R. C. Jamieson & Co., Ltd., Montreal, Que.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
ENAMEL MANUFACTURERS AND DECORATORS
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
ENAMEL AND TIN WARE
McClary Mfg. Co., London, Ont.
ENGINES
*E. Leonard & Sons, London, Ont.
*Goldie & McCulloch Co., Lt., Galt, Ont.
J. & R. Weir, Montreal, Que.
*Lauzon Engineering, Ltd., Levis, Que.
*Sheldons, Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
ENGINES, gas and gasoline
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*Hamilton Motor Works, Ltd., Hamilton, Ont.
*Massey-Harris Co., Ltd., Toronto.
ENGINES, gasoline, tractor, plowing and threshing
*Sawyer-Massey Co., Ltd., Hamilton, Ont.
ENGINES, hoisting
*M. Beatty & Sons, Welland, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

*For Display Advertisement see Index, Page 43

ENGINES, marine, gasoline and kerosene
Bruce, Stewart & Co., Ltd., Charlottetown, P.E.I.
ENGINES, steam plowing and threshing
*Sawyer-Massey Co., Ltd., Hamilton, Ont.
ELECTRICAL AND GAS FIXTURES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
*Tallman, Brass & Metal Co., Hamilton, Ont.
ELECTRIC HEATING APPLIANCES
*Canadian General Electric Co., Ltd., Toronto, Ont.
ENGRAVERS, photo
Grip, Ltd., Toronto, Ont.
Ontario Engraving Co., Hamilton, Ont.
The Mortimer Co., Ltd., Ottawa.
ENGRAVERS, half-tone
Grip, Ltd., Toronto.
Ontario Engraving Co., Hamilton, Ont.
ENGRAVERS, wood
Ontario Engraving Co., Hamilton, Ont.
ENGRAVERS AND PRINTERS steel plate
American Bank Note Co., Ottawa, Ont.
ENGRAVERS AND PRINTERS bank note
American Bank Note Co., Ottawa, Ont,
ENGRAVING
*J. L. Jones Engraving Co., Toronto, Ont.
ENGRAVING, copper and steel plate
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
ENSILAGE AND STRAW CUTTERS
J. Fleury's Sons, Aurora, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
EVAPORATED APPLES
Grahams, Ltd., Belleville, Ont.
ENVELOPES
Barber-Ellis Co., Ltd., Toronto.
Canada Envelope Co., Montreal, Que.
EVENERS, for 2, 3, 4, 6 and 8 horses
*McKinnon Industries, Ltd., St. Catharines, Ont.
EXCELSIOR
*Delany & Pettit, Ltd., Toronto.
EXCELSIOR PADS
Parmenter & Bulloch Co., Ltd., Gananoque, Ont.
EXPERTS IN PATENT CAUSES
Ridout & Maybee, Toronto, Ont.
EXPLOSIVES, high
Canadian Explosives, Ltd., Montreal, Que.
FACE PLATE JAWS
Ker & Goodwin, Brantford, Ont.
FACTORY SUPPLIES, cheese and creamery
De Laval Dairy Supply Co., Ltd., Montreal, Que.
FANS
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
FASTENERS, belt
*Sadler & Haworth, Montreal, Que.
FELTS, pulp and paper makers
Ayers, Ltd., Lachute Mills, P.Q.
*Beveridge Paper Co., Ltd., Montreal, Que.
FENCES AND GATES
*Dennis Wire & Iron Works Co., London, Ont.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
FENCING AND GATES, woven wire
*Canada Wire and Iron Goods Co., Hamilton, Ont.
FENCING, wire
C. H. Johnson & Sons, Ltd., Montreal, Que.
FENDERS, for buggy and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
FIBRE PAILS
*The E. B. Eddy Co., Ltd., Hull, Que.

FILES
Henry Disston & Sons, Ltd., Toronto, Ont.
*The Nicholson File Co., Port Hope.
FILING CABINETS
*Office Specialty Co., Newmarket, Ont.
FILING EQUIPMENT, wood & steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
FILING SYSTEMS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
Lowe-Martin Co., Ltd., Ottawa, Ont.
FIRE ALARMS
*Northern Electric Co., Ltd., Montreal, Que.
FIRE BRICK
Dominion Fire Brick & Clay Products, Ltd., Moose Jaw, Sask.
FIRE BRICK AND CLAY
Dominion Fire Brick & Clay Products, Ltd., Moose Jaw, Sask.
FIRECLAY
Jas. W. Foley & Co., St. John, N.B.
FIRE DOOR HARDWARE
Richards Wilcox Canadian Co., Ltd., London, Ont.
FIRE DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People, Ltd., Oshawa, Ont.
FIRE ENGINES
*Waterous Engine Works Co., Ltd., Brantford, Ont.
FIRE ESCAPES
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
FIRE EXTINGUISHERS
*A. B. Ormsby Co., Ltd., Toronto.
*Booth-Coulter Copper & Brass Co., Ltd., Montreal, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
FIRE FIGHTING APPARATUS
*Waterous Engine Works Co., Ltd., Brantford, Ont.
FIRE HOSE
*Canadian Consolidated Rubber Co. of Canada, Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber, Ltd., Toronto, Ont.
FIRE PREVENTION MATERIAL
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*Eureka Mineral Wool & Asbestos Co., Toronto.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
FIRE PROOF WINDOWS AND DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
FIRE SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy Mansell Co., Toronto, Ont.
*H. G. Vogel Co., Montreal, Que.
FIRE AND WATER DEPARTMENT
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
The Garth Co., Montreal, Que.
FISH, Atlantic Sea-Foods
Maritime Fish Corporation, Ltd., Montreal, Que.
FITTINGS FOR SOIL PIPE
Anthes Foundry, Ltd., Toronto.
FITTINGS, steam
Warden King Ltd., Montreal, Que.
FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.
FLAGS
*Scythes & Co., Ltd., Toronto, Ont.
FLANGES, for wheels
*McKinnon Industries, Ltd., St. Catharines, Ont.
FLOODLIGHTS, electric
*Crouse-Hinds Co., Ltd., Toronto.
FLOORING, hardwood
Seaman Kent Co., Ltd., Meaford, Ont.
FLOUR MILL MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
FLUE LINERS
Standard Clay Products, Ltd., St. Johns, Que.

FORGES
*Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
*Sheldons, Ltd., Galt, Ont.
FORGINGS
Canada Forge Co., Ltd., Welland, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
*The John Whitfield Co., Toronto.
FORGINGS, drop
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
FOUNDRY EQUIPMENT
*Northern Crane Works, Ltd., Walkerville, Ont.
FOUNTAIN FRUITS AND JUICES
J. J. McLaughlin, Ltd., Toronto.
FOUNTAINS, drinking
*Mueller Mfg. Co., Ltd., Sarnia, Ont.
FRICTION CLUTCH PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.
FROGS AND CROSSINGS, manganese
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.
FUEL
Standard Fuel Co., Toronto, Ont.
FUR GARMENTS, men's and women's
Holt, Renfrew, Ltd., Quebec.
FUR GOODS
John W. Peck & Co., Ltd., Montreal, Que.
FUR TRIMMINGS, ornaments and buttons
J. Henry Peters Co., 1 Mincing St., Toronto, Ont.
FURNACES
McClary Mfg. Co., London, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
FURNITURE, hall
The George McLagan Furniture Co., Ltd., Stratford, Ont.
FURNITURE, office
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.
FURNITURE, reed and rattan
Imperial Rattan Co., Ltd., Stratford, Ont.
FUSE BOXES
*Crouse-Hinds Co., Ltd., Toronto.
FUSE PLUGS AND FUSES, refillable
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
FUSES
*Economy Fuse & Mfg. Co., Montreal, Que.
GALVANIZED IRON
*A. C. Leslie & Co., Montreal.
GALVANIZED SHEETS
*Dominion Sheet Metal Co., Hamilton, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
GALVANIZERS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*The Pedlar People, Ltd., Oshawa.
*McKinnon Industries, Ltd., St. Catharines, Ont.
GASOLINE ENGINES
*Ontario Wind & Pump Co., Ltd., Toronto, Ont.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
GASOLINE FIRE ENGINES
*Waterous Engine Works Co., Ltd., Brantford, Ont.
GASOLINE STORAGE SYSTEMS, special underground
S. F. Bowser & Co., Toronto.
*Steel Trough & Machine Co., Ltd., Tweed, Ont.
GASOLINE
*The Imperial Oil Co., Ltd., Toronto, Ont.
GAUGES
*Brown Engineering Corporation, Toronto, Ont.
*John Whitfield Co., Toronto.

GEARS, cut
*Brown Engineering Corporation, Toronto, Ont.
*Hamilton Gear and Machine, Toronto.
*Winnipeg Gear & Engineering Co., Ltd., Winnipeg, Man.
*The John Whitfield Co., Toronto.
GELATINE
Canada Gelatine Co., Ltd., Brantford, Ont.
GENERATORS
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
GENERATORS, electric
*Canadian General Electric Co., Ltd., Toronto.
GILDING METAL
*Dominion Copper Products Co., Ltd., Montreal, Que.
GLASSWARE
Dominion Glass Co., Ltd., Montreal, Que.
GLASSWARE, cut
Roden Bros., Ltd., Toronto.
GLASS FOR BUILDINGS
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLASS BENDERS
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLASS, mirror
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLOVES AND MITTS
*A. R. Clarke & Co., Ltd., Toronto.
Craig, Cowan Co., Ltd., Toronto.
GLUE
Canada Glue Co., Ltd., Brantford, Ont.
*Delany & Pettit, Ltd., Toronto.
GOLD-FILLED WIRE AND PLATE
Canadian Seamless Wire Co., Toronto, Ont.
GOLD AND SILVER REFINERS
Canadian Seamless Wire Co., Toronto, Ont.
GRAIN CRUSHERS, rapid, easy
J. Fleury's Sons, Aurora, Ont.
GRAPE JUICE
J. J. McLaughlin, Ltd., Toronto.
The Welch Co., Ltd., St. Catharines, Ont.
GRATES
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
GRAVITY CARRIERS
*Canadian Mathews Gravity Carrier Co., Toronto, Ont.
GREASES
*Dominion Oil Co., Ltd., Hamilton, Ont.
GRILLES, metal
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
GRINDER, bench
Bond Engineering Co., Toronto.
GRINDERS, portable
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
GRINDERS, pedestal and bench
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
GRINDING AND POLISHING MACHINERY
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
GRINDING WHEELS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
*The Dominion Abrasive Wheel Co., Ltd., New Toronto, Ont.
GRINDSTONES
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
GUARDS, condulet
*Crouse-Hinds Co., Ltd., Toronto.
GUNN SECTIONAL BOOKCASES
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
GUY ANCHORS
B. J. Coghlin Co., Ltd., Montreal.
GUL RODS
*Crouse-Hinds Co., Ltd., Toronto.
GYPSUM, crushed
*Albert Mfg. Co., Hillsborough, N.B.
GYPSUM PRODUCTS
*Manitoba Gypsum Co., Ltd., Winnipeg, Man.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.

*For Display Advertisement see Index, Page 43

HACK SAW BLADES AND FRAMES
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HACK SAW MACHINES
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HALL FURNITURE
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
HAMS
F. W. Fearman Co., Ltd., Hamilton, Ont.
HAMES, steel and iron
*McKinnon Industries, Ltd., St. Catharines, Ont.
HANDLES (axe, pick, sledge hammers, etc.)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.
HANDLES, wood
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
*Toy products, Ltd., Farm Point, Que.
HAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HANGERS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
HARDWARE
*Richards - Wilcox Canadian Co., Ltd., London, Ont.
Taylor-Forbes Co., Ltd., Guelph, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
HARNESS
Lamontagne, Ltd., Montreal, Que.
HATS, men's straw
The Crown Hat Co., Ltd., Galt, Ont.
HARNESS HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.
HATS, ladies' and children's straw
The Crown Hat Co., Ltd., Galt, Ont.
HATS, ladies' and children's felt and beaver
The Crown Hat Co., Ltd., Galt, Ont.
HATS, ladies' felt and straw
Toronto Hat Mfg. Co., Toronto.
HAULAGE, wire rope
The Dominion Wire Rope Co., Ltd., Montreal, Que.
HEADING SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HEADLIGHT, electric
*Crouse-Hinds Co., Ltd., Toronto.
HEATERS
*Waterous Engine Works Co., Ltd., Brantford, Ont.
HEATERS, feed water
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
HEATING APPLIANCES
*C. A. Dunham Co., Ltd., Toronto.
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
HEATING SYSTEMS
*C. A. Dunham Co., Ltd., Toronto.
HEMLOCK, union and oak sole
Breithaupt Leather Co., Ltd., Kitchener, Ont.
HESSIANS
The Canadian Bag Co., Ltd., Montreal, Que.
*Scythes & Co., Ltd., Toronto.
HINGES
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
HOISTS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOISTS, electric and pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOISTING MACHINERY
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOOKS, for logging chains
*McKinnon Industries, Ltd., St. Catharines, Ont.
HOSE, fire
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber, Ltd., Toronto, Ont.
HOSE, half, Imperial
Kingston Hosiery Co., Ltd., Kingston, Ont.
HOSE, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd.
HUB CAPS
*McKinnon Industries, Ltd., St. Catharines, Ont.
HUBS, for Ford cars
*McKinnon Industries, Ltd., St. Catharines, Ont.
HYDRAULIC PRESSES
*Bawden Machine Co., Ltd., Toronto, Ont.
*William R. Perrin, Ltd., Toronto
HYDRO-ELECTRIC PLANTS
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
ICE CREEPERS
Parmeter & Bulloch Co., Ltd., Gananoque, Ont.
ICE-MAKING MACHINERY
The Linde Canadian Refrigeration Co., Ltd., Montreal, Que.
INCUBATORS AND BROODERS
Lee Mfg. Co., Ltd., Pembroke, Ont.
INGOT METALS
*Brown's Copper & Brass Rolling Mills, Ltd., New Toronto, Ont.
INSERTED TOOTH SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
INSULATING COMPOUNDS
The Imperial Varnish & Color Co., Ltd., Toronto.
INSULATORS
*Crouse-Hinds Co., Ltd., Toronto.
INTERLOCKING RUBBER TILING
*Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd., Toronto, Ont.
INVERTS
Standard Clay Products, Ltd., St. Johns, Que.
IRON
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
IRON, refined bar
Starr Mfg. Co., Ltd., Dartmouth, N.S.
IRON AND STEEL BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
IRON STAIRWAYS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
IRONWORK, architectural
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
IRONWORK, ornamental
*Canada Wire & Iron Goods Co., Hamilton, Ont.
IRON, LEAD AND PUTTY
A. R. Whittall, Montreal, Que.
IRON PUMPS
*Medicine Hat Pump and Brass Mfg. Co., Medicine Hat, Alta.
JACKS
*Globe Engineering Co., Ltd., Hamilton, Ont.
JAM, canned goods, etc.
E. D. Smith & Son, Ltd.
JAPANS, enamels, etc.
A. Muirhead Co., Ltd., Toronto.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
JIGS AND TOOLS
*Brown Engineering Corporation, Toronto, Ont.
JOINTERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
JELLY POWDER
S. H. Ewing & Sons, Montreal.
JEWELRY, enamelled souvenir
Caron Bros., Montreal, Que.
JEWELRY, gold-filled
Caron Bros., Montreal, Que.
JOIST HANGERS
*Richards - Wilcox Canadian Co., Ltd., London, Ont.
JUNCTION BOXES, cable
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
KELSEY WARM AIR GENERATOR
The Jas. Smart Mfg. Co., Limited, Brockville, Ont.
KILNS
*Sheldons, Ltd., Galt, Ont.
KINDLING
Standard Fuel Co., Toronto, Ont.
KNIFE GRINDERS
*Canada Machinery Corporation Ltd., Galt, Ont.
*W. H. Banfield & Sons, Toronto.
KNITTED GOODS
*Penman's, Ltd., Paris, Ont.
KNIVES
*Galt Knife Co., Ltd.
*The Peter Hay Knife Co., Ltd., Galt, Ont.
Simonds Canada Saw Co., Ltd., Montreal, Que.
KNIVES, pulp and paper
Henry Disston & Sons, Toronto.
*The Peter Hay Knife Co., Ltd., Galt, Ont.
KODAKS AND PHOTOGRAPHIC SUPPLIES
Canadian Kodak Co., Ltd., Toronto.
LABELS
Lawson & Jones, Ltd., London, Ont.
LABELS, lithographed
Harris Lithographing Co., Ltd., Toronto, Ont.
LABORATORY SUPPLIES
Canadian Laboratory Supplies, Ltd., Toronto.
LACE LEATHER
F. C. McCordick, St. Catharines, Ont.
*Sadler & Haworth, Montreal, Que.
*The D. K. McLaren Belting Co., Ltd., Montreal, Que.
*The J. C. McLaren Belting Co., Ltd., Montreal, Que.
LADDERS
Stratford Mfg. Co., Ltd., Stratford, Ont.
LADDERS, step
*Otterville Mfg. Co., Ltd., Otterville, Ont.
LADLES, foundry
*Northern Crane Works, Ltd., Walkerville, Ont.
LAMP GLOBES
*Crouse-Hinds Co., Ltd., Toronto.
LARD
F. W. Fearman Co., Ltd., Hamilton, Ont.
LATH
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
LATHE CHUCKS
Ker & Goodwin, Brantford, Ont.
LATHE-DOGS
Canadian Billings & Spencer, Ltd., Welland, Ont.
LATHES
*Canada Machinery Corporation, Ltd., Galt, Ont.
LAUNCHES
Peterboro Canoe Co., Ltd., Peterboro, Ont.
LAWN MOWERS
Taylor-Forbes Co., Ltd., Guelph, Ont.
LAWN SWINGS
Stratford Mfg. Co., Ltd., Stratford, Ont.
LAVATORIES, enameled
Amherst Foundry Co., Ltd., Amherst, N.S.
LAUNDRY SINKS
Amherst Foundry Co., Ltd., Amherst, N.S.
LEAD
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
LEAD GRINDERS
Benjamin Moore & Co., Ltd., Toronto, Ont.
LEAD PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
*The Canada Metal Co., Toronto.
LEAD SHEET
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
LEATHER
The Robson Leather Co., Ltd., Oshawa, Ont.
LEATHER, bookbinders'
Clarke & Clarke, Ltd., Toronto.
LEATHER DASHES & FENDERS
*McKinnon Industries, Ltd., St. Catharines, Ont.
LEATHER, fancy
Clarke & Clarke, Ltd., Toronto.
LEATHER GOODS
Lamontagne, Ltd., Montreal, Que.
LEATHER, hemlock, union and oak sole
The Breithaupt Leather Co., Ltd., Kitchener, Ont.
LEATHER, patent colt and side leather
*A. R. Clarke & Co., Ltd., Toronto.
LEATHER, sheep skin, etc.
Clarke & Clarke, Ltd., Toronto.
LEATHER, upholstering
Clarke & Clarke, Ltd., Toronto.
LEATHER, upper
A. Davis & Son., Ltd., Kingston, Ont.
King Brothers Co., Ltd., Whitby, Ont.
LIGHTS, marine, side and port
*Crouse-Hinds Co., Ltd., Toronto.
LINK BELT, Ewart, and sawmill riveted
*Canadian Link-Belt Co., Toronto.
LINK BELTING
*The Dodge Mfg. Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
LINOLEUM
Dominion Oil Cloth Co., Ltd., Montreal, Que.
LITHOGRAPHED BUSINESS STATIONERY
Business Systems, Ltd., Toronto.
LITHOGRAPHED TIN WARE
*MacDonald Mfg. Co., Ltd., Toronto, Ont.
LITHOGRAPHERS
American Bank Note Co., Ottawa, Ont.
Harris Lithographing Co., Ltd., Toronto, Ont.
The Mortimer Co., Ltd., Ottawa, Ont.
LOCKERS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*Geo. B. Meadows, Wire, Iron and Brass Works Co., Toronto, Ont.
LOCOMOTIVE BLOCKS
Standard Clay Products, Ltd., St. Johns, Que.
LOCOMOTIVES, industrial
*Montreal Locomotive Works, Ltd., Montreal, Que.
LOCOMOTIVE & MARINE BRASS WORKS
The James Morrison Brass Mfg. Co., Ltd., Toronto.
LOGGING CHAIN HOOKS
*McKinnon Industries, Ltd., St. Catharines, Ont.
LOOSE LEAF BINDERS AND FORMS
Business Systems, Ltd., Toronto.
LOOSE LEAF SYSTEMS
Copeland - Chatterson Co., Ltd., Brampton, Ont.
Lowe-Martin Co., Ottawa, Ont.
LOOSE LEAF SUPPLIES
The Esdale Press, Ltd., Edmonton, Alta.
LUBRICATORS, steam sight feed
Penberthy Injector Co., Ltd., Windsor, Ont.
LUGS, for silos and water tanks
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
LUMBER
*Brown Corporation, La Tuque, Que.
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
G. & J. Esplen, Montreal, Que.
LUMBER, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

*For Display Advertisement see Index, Page 43

LUMBER, spruce and pine, cedar railway ties and shingles
Bathurst Lumber Co., Ltd., Bathurst, N.B.
LUMBERING BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
LUMBER, red pine and spruce
Gillies Bros., Ltd., Braeside, Ont.
LUMBER, spruce, fir, larch and cedar
Fernie Lumber Co., Ltd., Fernie, B.C.
LUMBER, White pine
Gillies Bros., Ltd., Braeside, Ont.
MACHINE KNIVES
*Galt Knife Co., Ltd.
*E. C. Atkins & Co., Inc., Hamilton, Ont.
Henry Disston & Sons, Toronto.
MACHINE TOOLS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINE WORK, special and repairs
*Canadian Rumely Co., Ltd., Toronto, Ont.
*The John Whitfield Co., Toronto.
MACHINERY AND UTENSILS FOR BAKERS
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY AND UTENSILS FOR CANDY
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY AND UTENSILS FOR ICE CREAM
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY, conveying
*Canadian Link-Belt Co., Toronto
*Canadian Mathews Gravity Carrier Co., Limited, Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, flour mill
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, grinding
*Canadian Hart Wheels, Limited. Hamilton, Ont.
J. & R. Weir, Montreal, Que.
*M. Beatty & Sons, Ltd., Welland.
*Northern Crane Works, Limited. Walkerville, Ont.
MACHINERY, ice cream
J. J. McLaughlin, Ltd. Toronto.
MACHINERY, iron working
*Canada Machinery Corporation, Limited, Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, pulp mill
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*The Waterous Engine Works Co., Limited, Brantford, Ont.
MACHINERY, punching and shearing.
*Canada Machinery Corporation, Limited, Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, railroad and car-shop
*Canada Machinery Corporation, Limited, Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, roadmaking
Canadian Ingersoll-Rand Co., Ltd., Sherbrooks, Que.
Sawyer-Massey Co., Limited, Hamilton, Ont.
*The Waterous Engine Works Co., Limited, Brantford, Ont.
MACHINERY, sawmill
The E. Long Mfg. Co., Limited, Orillia, Ont.
P. Payette & Co., Pentanguishene.
*The Waterous Engine Works Co., Limited, Brantford, Ont.
*Yates, P. B., Machine Co., Ltd., Hamilton, Ont.
MACHINERY, sheet metal working
Brown, Boggs Co., Ltd., Hamilton.
*Canada Machinery Corporation Limited, Galt, Ont.
MACHINERY, special
Bawden Machine Co., Limited, Toronto.
*The John Whitfield Company, Toronto, Ont.

MACHINERY, transmission
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*Goldie & McCulloch Co., Limited, Galt, Ont.
MACHINERY, woodworking
*Canada Machinery Corporation, Limited, Galt, Ont.
*Yates, P. B., Machine Co., Ltd., Hamilton, Ont.
Preston Woodworking Machinery Co., Ltd., Preston.
*The Waterous Engine Works Co., Limited. Brantford, Ont.
MACHINE WORK, special and repairs
*Canadian Rumely Co., Ltd., Toronto, Ont.
*John Whitfield Co., Toronto, Ont.
MACHINE WRENCHES
*Canadian Billings & Spencer, Ltd., Welland, Ont.
MACHINES, painting
Spramotor Co., London, Ont.
MAGNESITE
Canadian Carbonate Co., Montreal
MALT
*Hiram Walker & Sons, Limited, Walkerville, Ont.
MALLEABLE, for carriages
*McKinnon Industries Limited, St. Catharines, Ont.
MALLEABLE IRON CASTINGS
*McKinnon Industries Limited, St. Catharines, Ont.
Galt Malleable Iron Co., Ltd., Galt, Ont.
MAPLE PRODUCTS
*Maples, Limited, Toronto.
MARTINGALE RINGS AND SLIDE LOOPS
The Arlington Co. of Canada, Ltd., Toronto.
MATCHERS
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
MATCHES
*The E. B. Eddy Co., Ltd., Hull.
MECHANICAL STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto.
MEDICINES, patented and pharmaceutical
Dr. Ed. Morin & Cie., Ltd., Quebec.
METAL, babbitt
*Canada Metal Co., Toronto.
*Tallman Brass and Metal Co., Hamilton, Ont.
Alonzo W. Spooner, Limited, Port Hope, Ont.
METAL CEILINGS
*The Pedlar People Limited, Oshawa.
*The A. B. Ormsby Co., Limited, Toronto.
METAL LATH
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont.
*The Pedlar People Limited, Oshawa.
METAL PACKING
*Garlock Packing Company, Hamilton, Ont.
METAL, spinning and stamping
The Booth-Coulter Copper and Brass Co., Limited, Toronto.
METAL SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
METAL SHINGLES
*The Pedlar People, Limited, Oshawa.
*The A. B. Ormsby Co., Limited, Toronto.
METAL STAMPINGS
Canadian Cartridge Co., Ltd., Hamilton, Ont.
METERS, water
Canadian Cartridge Co., Ltd., Hamilton, Ont.
MILK DEALERS' MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
MILLBOARD, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.
MILLING CUTTERS
Pratt and Whitney Company of Canada, Dundas, Ont.
MINING MACHINERY
*Canadian Allis-Chalmers, Limited, Toronto.
MITTS AND GLOVES (Indian, tan, red deerskins)
Holt, Renfrew Ltd., Quebec, Que.
A. R. Clarke & Co., Ltd., Toronto.

MIXERS, chocolate, dough and paint
Fletcher Mfg. Co., Ltd., Toronto.
MOCCASINS AND SLIPPERS (Indian tanned leathers)
Holt, Renfrew Ltd., Quebec, Que.
MORTISERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
MOTOR CARS
*Ford Co. of Canada, Ford, Ont.
MOTORS, electric
*Canadian General Electric Company, Ltd., Toronto.
MOTORS, electric (alternating current)
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Consolidated Electric Co., Limited, Toronto.
*Jones & Moore Electric Co., Ltd., Toronto.
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*T. & H. Electric Co., Hamilton.
Georgetown, Ont.
MOTORS, electric (direct current)
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Consolidated Electric Co., Limited, Toronto.
*Jones & Moore Electric Co., Ltd., Toronto.
*T. & H. Electric Co., Hamilton.
MOTORS, electric (repairing)
Consolidated Electric Co., Limited Toronto.
*T. & H. Electric Co., Hamilton.
MOTORS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
MOULDERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
NAILS
*The Steel Co. of Canada, Limited. Hamilton, Ont.
NAILS, copper
Parmenter and Bulloch Co., Ltd., Gananoque, Ont.
NAILS, wire
Parmenter and Bulloch Co., Ltd., Gananoque, Ont.
The Graham Nail Works, Toronto.
NAPHTHA
*The Imperial Oil Co., Limited. Toronto.
NECKYOKES
*McKinnon Industries Limited, St. Catharines, Ont.
NICKEL OXIDE
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.
Coniagas Reduction Co., Limited, St. Catharines. Ont.
NICKEL METAL
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.
NIPPLES, for radiators
*McKinnon Industries Limited, St. Catharines, Ont.
NUTS
*John Morrow Screw & Nut Co., Limited, Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Limited. Hamilton, Ont.
*United Brass & Lead, Ltd., Toronto
OAKUM, plumbers, Canadian Navy
Factory Waste and Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto.
OARLOCKS
*McKinnon Industries Limited, St. Catharines, Ont.
OAT CRUSHERS AND FLAKERS
J. Fleury's Sons, Aurora, Ont.
OFFICE DESKS
*Goderich Organ Co., Goderich,
OFFICE EQUIPMENT
*Office Specialty Co., Newmarket,
OFFICE FURNITURE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
OILS
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal,
Sherwin-Williams Co. of Canada, Limited. Montreal, Que.
OIL FILTRATION AND CIRCULATING SYSTEMS
S. F. Bowser & Co., Toronto.

OIL STORAGE SYSTEMS, self-measuring
S. F. Bowser & Co., Toronto.
OIL COMPANIES
*Canadian Oil Cos., Toronto.
Commercial Oil Co., Ltd., Hamilton.
*Imperial Oil Co., Toronto.
OILS (Petroleum products)
*British American Oil Co., Limited, Toronto.
*Dominion Oil Co., Ltd., Hamilton.
*The Imperial Oil Co., Toronto.
OILS, road
*The Barrett Co., Ltd., Toronto and Montreal.
OIL HOLE COVERS
*Canadian Winkley Co., Limited, Windsor, Ont.
OIL CUPS, both screw top and hinge lid
*Canadian Winkley Co., Limited, Windsor, Ont.
OILCLOTHS, floor and table
Dominion Oil Cloth Co., Limited, Montreal, Que.
ORGANS
*Goderich Organ Co., Goderich, Ont.
Karn-Morris Piano and Organ Co., Ltd., Woodstock, Ont.
ORGANS, pipe
Casavant Freres, St. Hyacinthe, Que.
Karn-Morris Piano and Organ Co., Ltd., Woodstock, Ont.
ORGANS, parlor
*Goderich Organ Co., Goderich, Ont.
ORNAMENTAL IRON WORK
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*The Geo. B. Meadows, Toronto Iron and Brass Goods Works Co., Limited, Toronto.
*McGregor & McIntyre, Ltd., Toronto.
OVERALLS
Peerless Overall Co., Rock Island, Que.
Walker Pant and Shirt Co., Walkerville and Chatham, Ont.
The Standard Shirt Co., Limited, Montreal, Que.
OVERCOATINGS
Rosamond Woollen Co., Almonte, Ont.
OVERHEAD RUNWAYS
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*Richards-Wilcox Canadian Co., Limited, London, Ont.
OXY-ACETYLENE WELDING
*L'Air Liquide Society, Montreal.
*The Prest-O-Lite Co., Inc., Toronto.
OXYGEN
*L'Air Liquide Society, Montreal.
PACKING BOXES
Barchard & Co., Limited, Toronto.
PACKING, engine
Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Garlock Packing Co., Hamilton.
PACKING, rubber
*Canadian Consolidated Rubber Co., Limited, Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Limited.
Jenkins Bros., Ltd., Montreal, Que.
PAILS AND TUBS, wooden
The C. Beck Mfg. Co., Limited, Penetanguishene, Ont.
PAINTERS' SUPPLIES
A. Muirhead Co., Ltd., Toronto.
PAINTS
R. C. Jamieson & Co., Limited, Montreal, Que.
PAINTS and VARNISHES
A. Muirhead Co., Ltd., Toronto.
Benjamin Moore & Co., Limited, Toronto.
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
The Imperial Varnish & Color Co., Limited, Toronto.
The Staneland Co., Ltd., Victoria, B.C.
A. Ramsay & Sons Co., Montreal, Que.
Standard Paint Co. of Canada, Limited, Montreal, Que.
PAINTS, barn and bridge
Standard Paint & Varnish Co., Ltd., Windsor, Ont.

*For Display Advertisement see Index, Page 43

PAINTS, preservative
Standard Paint Co. of Canada, Limited, Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.

PANELBOARDS
*Crouse-Hinds Co., Ltd., Toronto.

PAPER, book
Barber Paper & Coating Mills, Ltd., Georgetown, Ont.

PAPER BOXES
King Paper Box Co., Ltd., Montreal, Que.
*Rudd Paper Box Co., Limited, Toronto.

PAPER, coated, book and label
*Provincial Paper Mills, Limited, Georgetown, Ont.

PAPER, coated box board
*Provincial Paper Mills, Limited, Georgetown, Ont.

PAPER, coated cover
*Provincial Paper Mills, Limited, Georgetown, Ont.

PAPER, envelope
Provincial Paper Mills Limited, Georgetown, Ont.
The Toronto Paper Manufacturing Co., Cornwall, Ont.

PAPER, enamelled blotting
*Provincial Paper Mills, Limited.

PAPER, label
*Provincial Paper Mills, Limited, Georgetown, Ont.

PAPER, ledger
*Howard Smith Paper Mills, Ltd., Montreal.
*Rolland Paper Co., Limited, Montreal, Que.
The Toronto Paper Manufacturing Co., Cornwall, Ont.

PAPERBOARDS
*Canada Boxboard Co., Limited, Montreal. Que.

PAPER, super-book
The Toronto Paper Manufacturing Co., Cornwall, Ont.

PAPER, wall
Stauntons, Ltd., Toronto.

PAPER, Waxed
Business Systems, Ltd., Toronto.

PAPER, writing
The Toronto Paper Manufacturing Co., Cornwall, Ont.
Howard Smith Paper Mills, Limited, Montreal.
*Rolland Paper Co., Limited, Montreal, Que.

PAPERS, bond
*Howard Smith Paper Mills, Ltd. Montreal.
*Rolland Paper Co., Ltd., Montreal

PAPERS, building
Bathurst Lumber Co., Ltd., Bathurst, N.B.
*The Riordon Pulp and Paper Co., Montreal, Que.
Standard Paint Co. of Canada, Ltd., Montreal, Que.

PARK SEATS
Stratford Mfg. Co., Ltd., Stratford, Ont.

PARLOR SUNDRIES
The Geo. McLagan Furniture Co., Limited, Stratford, Ont.

PATENTS
Fetherstonhaugh & Co., Toronto.
Ridout and Maybee, Toronto.
*Harold C. Shipman & Co., Ottawa.

PATENT LITIGATION
Ridout and Maybee, Toronto.
*Harold C. Shipman & Co., Ottawa.

PATTERN MAKERS' BRASS DOWEL PINS
*Canadian Winkley Co., Limited, Windsor, Ont.

PAY ROLL AUDITS
*International Business Machines, Limited, Toronto.

PERFORATED METALS
*Canada Wire & Iron Goods Co., Hamilton, Ont.

PERFORATED MUSIC ROLLS
The Otto Higel Co., Ltd., Toronto

PERFUMES AND TOILET PREPARATIONS
Sovereign Perfumes Ltd., Toronto.

PETROLEUM PRODUCTS
*The Imperial Oil Co., Limited Toronto.

PHOTOMAILERS
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.

PIANOS
Dominion Organ & Piano Co,, Ltd., Bowmanville, Ont.
*Gourlay, Winter and Leeming, Toronto.
Karn-Morris Piano and Organ Co., Limited, Woodstock, Ont.

PIANO ACTIONS
The Otto Higel Co., Ltd., Toronto.

PIANO KEYS
The Otto Higel Co., Ltd., Toronto.

PIANOS, player
*Gourlay, Winter and Leeming, Toronto.
Karn-Morris Piano and Organ Co., Limited, Woodstock, Ont.

PIANO, player actions
The Otto Higel Co., Ltd., Toronto.

PIANO STOOLS and BENCHES
*Goderich Organ Co., Goderich, Ont.

PIG IRON
*The Steel Co. of Canada, Limited, Hamilton, Ont.
M. A. Hanna & Co., Toronto,

PINS, society, emblems and badges
Caron Bros., Montreal, Que.

PIPE, cast iron, for water and gas
National Iron Works, Ltd., Toronto.

PIPE COUPLINGS
*The Steel Co. of Canada, Limited, Hamilton, Ont.

PIPE COVERINGS
*Eureka Mineral Wood & Asbestos Co., Toronto.

PIPE ORGANS
Karn-Morris Piano and Organ Co., Limited, Woodstock, Ont.

PIPES, culvert
Standard Clay Products, Ltd., St. Johns, Que.
*The Pedlar People Limited, Oshawa.

PIPE AND NIPPLES, black and galvanized
*Canadian Tube & Iron Co., Ltd., Montreal, Que.

PIPE, sewer
Hamilton and Toronto Sewer Pipe Co., Limited, Hamilton, Ont.
Standard Clay Products, Ltd., St. Johns, Que.

PIPE, soil and fittings
Authes Foundry, Ltd., Toronto and Winnipeg.
Warden King Lt., Montreal, Que.

PIPE AND TUBES, wrought
*Page-Hersey Iron Tube and Lead Co., Ltd.. Toronto.

PISTON RODS
*The Canadian Drawn Steel Co., Limited, Hamilton, Ont.
*Union Drawn Steel Co., Limited, Hamilton, Ont.

PLANERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

PLANING MILLS
G. & J. Esplen, Montreal, Que.

PLASTERING TROWELS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

PLOWS
J. Fleury's Sons, Aurora, Ont.

PLUGS
*Crouse-Hinds Co., Ltd., Toronto.

PLUMBAGO, CRUCIBLES and STOPPER HEADS
Dominion Crucible Co., Limited, Montreal.

PLUMBERS' SUPPLIES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto.

PLUMBING APPLIANCES
Standard Sanitary Mfg. Co., Ltd., Limited, Toronto.

PLUMBING SUPPLIES
Toronto Plate Glass Importing Co., Limited, Toronto.

PNEUMATIC DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

PNEUMATIC MACHINERY
*Canadian Ingersol-Rand Co., Sherbrooke, P.Q.

POLE LINE MATERIAL (wooden insulator top pins, side blocks, pole steps, cross arms)
The Lachute Shuttle Co., Limited. Lachute Mills, P.Q.

POLES, Flag
*Ontario Wind Engine & Pump Co., Ltd., Toronto.

POLES, telegraph and telephone, cedar
Fernie Lumber Co., Ltd., Fernie. B.C.

PORK PACKERS AND CHEESE EXPORTERS
The Ingersoll Packing Co., Limited. Ingersoll, Ont.

POSTS, split cedar fence
Fernie Lumber Co., Ltd., Fernie, B.C.

POULTRY SUPPLIES AND MEDICINES
Lee Mfg. Co., Ltd., Pembroke, Ont.

POWDER, blasting
Canadian Explosives, Ltd., Montreal, Que.

POWER PRESSES
Hydraulic Machinery Co., Limited, Montreal.
*William R. Perrin, Ltd., Toronto.

PRESERVATIVE PAINT
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont.

PRESSES, baling and filter
*William R. Perrin, Ltd., Toronto.

PRESSES, hydraulic
Hydraulic Machinery Co., Limited, Montreal.

PRESSES, sheet metal stamping
Brown. Boggs Co., Ltd.. Hamilton
*Canada Machinery Corporation, Limited, Galt, Ont.

PRESSES, veneer
*Canada Machinery Corporation, Limited, Galt, Ont.

PRESSED STEEL AND BRASS GREASE CUPS
*Canadian Winkley Co., Limited, Windsor, Ont.
Hydraulic Machinery Co., Limited, Montreal.
*William R. Perrin, Ltd., Toronto.

PRINTERS
Rous & Mann, Ltd., Toronto.
The Mortimer Co., Ltd., Ottawa.

PRINTING AND LITHOGRAPHING
Lawson & Jones, Limited, London, Ont.

PULLEYS
Bond Engineering Co., Toronto. Ont.
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

PULLEYS, wood split.
*Bernard Industrial Co., Fortierville, P.Q.

PULP, bleached sulphite
The Edward Partington Pulp and Paper Co., St. John, N.B.
Riordan Sales Co., Ltd., Montreal.

PULP, Unbleached Sulphite.
Riordan Sales Co., Ltd., Montreal.

PULP, sulphate and sulphite.
Bathurst Lumber Co., Ltd., Bathurst, N.B.

PULP
*Brown Corporation, La Tuque, Que.

PUMPS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Canadian Allis-Chalmers, Limited Toronto.
*Bawden Machine Co., Ltd., Toronto.
*Canadian Fairbanks-Morse Company, Limited, Montreal, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
Spramotor Co., London,, Ont.

PUMPS, boiler feed
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Bawden Machine Co., Ltd., Toronto.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

PUMPS, centrifugal
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*Waterous Engine Works Co., Ltd., Brantford, Ont.

PUMPS, turbine and reciprocating
*Bawden Machine Co., Ltd., Toronto.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

PUNCHES
*John Whitfield Co., Toronto.
*Pratt & Whitney Co., Dundas.

PYROMETERS
*Canadian Hoskins Co., Walkerville, Ont.

RADIATORS
Taylor-Forbes Co., Limited, Guelph
Warden King, Ltd., Montreal, Que.

RAILINGS, brass and iron
*Dennis Wire & Iron Works Co., London, Ont.

RAILS, light
Hammant Steel Car and Engineering Works, Hamilton.

RAILWAY SIGNAL APPLIANCES
General Railway Signal Co. of Canada, Ltd., Montreal, Que.

RAILWAY SUPPLIES
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
B. J. Coghlin Co., Ltd., Montreal, Que.

RAILWAY TARIFF BINDERS
The Esdale Press Ltd., Edmonton.

READY-TO-WEAR GARMENTS, LADIES'
H. C. Boulter Co., Ltd., Toronto.

REAMERS
*Pratt & Whitney Co., Dundas.
*Butterfield & Co., Rock Island, P.Q.

RECEPTACLES
*Crouse-Hinds Co., Ltd., Toronto.

REED AND RATTAN GOODS
Canada Furniture Mfgs., Limited, Woodstock, Ont.

REFRIGERATORS
Sanderson-Harold Co., Ltd., Paris, Ont.
Lee Mfg. Co., Ltd., Pembroke, Ont.

REFRIGERATING MACHINERY
The Linde Canadian Refrigeration Co., Ltd., Montreal, Que.

REFRIGERATORS, store, homes and institutions
Ham & Nott Co., Ltd., Brantford, Ont.
John Hillock & Co., Ltd., Toronto.

REINFORCEMENT BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Limited, Hamilton, Ont.
*Trussed Concrete Steel Co., Ltd., Walkerville.

REINFORCEMENT FOR CONCRETE
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont.

REINFORCEMENT FOR CONCRETE ROOFING, Metal.
*The Pedlar People Limited Oshawa.
*Trussed Concrete Steel Co., Ltd., Walkerville.

REVOLVING DOORS
*A. B. Ormsby Co., Ltd., Toronto.

RINGS, gold
Caron Bros., Montreal, Que.

RIVETERS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

RIVETS
*Canadian Tube & Iron Co., Ltd.,
*The Steel Co. of Canada, Limited, Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal.

RIVETS, bifurcated and tubular
Parmenter & Bulloch Co., Limited, Gananoque, Ont.

RIVETS AND BURRS, iron, copper and brass
Parmenter & Bulloch Co., Limited, Gananoque, Ont.

ROCK DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

ROLLING STEEL DOORS
*A. B. Ormsby Co., Ltd., Toronto.

ROLL PRINTING
*Autographic Register Co., Ltd., Montreal.
Business Systems, Ltd., Toronto.

ROOFING, metal
*The A. B. Ormsby Co., Limited, Toronto.

ROOFING, ready to lay
Standard Paint Co. of Canada, Ltd., Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.

ROOF TRUSSES
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal, Que.

*For Display Advertisement see Index, Page 43

ROPE
*Doon Twines Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.

ROPE, cotton
Hamilton Cotton Co., Hamilton, Ont.

RUBBER FOOTWEAR
Ames Holden, McCready, Limited, Montreal, Que.
*Gutta Percha & Rubber, Ltd.
The Miner Rubber Co., Limited, Granby, Que.

RUBBER GOODS
*Canadian Consolidated Rubber Co., Limited, Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd.

RUBBER MOULDS
Bawden Machine Co., Ltd., Toronto.

RUBBER PACKING
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Garlock Packing Company, Hamilton, Ont.

RULES
The Lufkin Rule Co. of Canada, Ltd., Windsor, Ont.

SADDLERY HARDWARE
*Dominion Forge and Stamping Co., Walkerville, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.

SAFES
*Goldie & McCulloch Co., Limited, Galt, Ont.
J. & J. Taylor, Ltd., Toronto.

SAMPLE CASES
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto.
J. Eveleigh & Co., Ltd., Montreal.

SAND RAMMERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

SANDPAPER
*Delany and Pettit, Ltd., Toronto.

SASH CORD, cotton
Hamilton Cotton Co., Hamilton,

SALT
Canadian Salt Co., Ltd., Windsor,
*Dominion Salt Co., Ltd., Sarnia,

SANITARY PAPER TOWELS
*E. B. Eddy Co., Ltd., Hull, Que.

SAW SHARPENING MACHINERY
*Canadian Hart Wheels, Limited, Hamilton, Ont.

SAWS
*E. C. Atkins & Co., Ltd., Hamilton.
Henry Disston & Sons, Limited, Toronto.
Shurly & Deitrich, Galt, Ont.

SAWS, cross-cut and band
*Canada Machinery Corperation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.

SAWS, circular mill
Shurly & Deitrich, Galt, Ont.

SAWS, hack
*Victor Saw Works, Ltd., Hamilton, Ont.

SAWS, of all kinds
Simonds Canada Saw Co., Limited, Montreal, Que.

SAWS, rip
*Canada Machinery Corperation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.

SAWMILLS
G. & J. Esplen, Montreal, Que.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

SAW MILL MACHINERY
*Canadian Allis-Chalmers, Limited, Toronto.

SAWS, specialties
*Victor Saw Works, Ltd., Hamilton, Ont.

SCALES
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton,

SCALES, counter
The Gurney Scale Co., Hamilton,

SCALES, railway track, etc.
The Gurney Scale Co., Hamilton,

SCREENS
*Canada Wire & Iron Goods Co., Hamilton, Ont.

SCREEN DOORS AND WINDOWS
Sanderson-Harold Co., Ltd., Paris,
Ham & Nott Co., Ltd., Brantford,

SCREWS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Limited, Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal.

SCREW PLATES
*Butterfield & Co., Rock Island, P.Q.

SECURITIES, engraved
American Bank Note Co., Ottawa,

SERGES
Rosamond Woollen Co., Almonte,

SHAFTING
Canada Forge Co., Ltd., Welland,
Bond Engineering Co., Toronto.
*Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Union Drawn Steel Co., Limited, Hamilton, Ont.
*Dodge Mfg. Co., Ltd., Toronto.

SHANTY BLANKETS
Slingsby Mfg. Co., Ltd., Brantford,

SHAPERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

SHEAR BLADES, iron
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Limited, Galt, Ont.

SHEATHING
*The Barrett Co., Ltd., Toronto and Montreal.

SHEATHING, asbestos corrugated
*Eureka Mineral Wool & Asbestos Co., Toronto.

SHEET METAL STAMPINGS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*The Pedlar People Limited, Oshawa.
*W. H. Banfield & Sons, Ltd. Toronto.
*The A. B. Ormsby Co., Limited, Toronto.

SHEETS, ETC.
*Tallhan Brass & Metal Co., Hamilton, Ont.

SHEETS, galvanized
*Dominion Sheet Metal Co., Ltd., Hamilton.
*The Pedlar People Limited,

SHINGLES
Bathurst Lumber Co., Ltd., Bathurst, N.B.

SHINGLE SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

SHIP BUILDERS
J. & R. Weir, Montreal, Que.

SHIRTS
John W. Peck & Co., Ltd., Montreal, Que.

SHIRTS, workmen's
*A. R. Clarke & Co., Ltd., Toronto.

SHOE PEGWOOD
O. Chalifour, Quebec, Que.

SHOE LININGS
Galt Knitting Co., Ltd., Galt, Ont.

SHOES, running and athletic
Ames-Holden-McCready, Ltd., Montreal, Que.

SHOOKS
Barchard & Co., Ltd., Montreal.

SIGNAL BELLS
Canadian National Carbon Co., Ltd., Toronto.

SILENT CHAIN DRIVES
*Canadian Link-Belt Co., Toronto.

SILVER BULLION
Coniagas Reduction Co., Ltd., St. Catharines, Ont.
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.

SILVERSMITH
Canadian Wm. A. Rogers, Ltd., Toronto.
Standard Silver Co., Toronto.

SILVERWARE, sterling
Roden Bros., Limited, Toronto.

SINGLETREES
*McKinnon Industries Limited, St. Catharines, Ont.

SINKS, enamelled
Amherst Foundry Co., Limited, Amherst, N.S.

SKATES, figure
Canada Cycle and Motor Co., Ltd.,

SKATES, genuine Acme
Canada Cycle and Motor Co., Ltd., Toronto.

SKATES, hockey
Canada Cycle and Motor Co., Ltd., Toronto.

SKATES, ice
Canada Cycle and Motor Co., Ltd., Toronto.

SKIFFS
Peterboro Canoe Co., Ltd., Peterboro, Ont.

SKYLIGHTS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People Limited, Oshawa.

SLEIGHS
Tudhope-Anderson Co., Limited, Orillia, Ont.

SLIPPERS
Ames-Holden-McCready, Ltd., Montreal, Que.

SLOTTERS
*Canada Machinery Corporation, Limited, Galt, Ont.

SMALL METAL STAMPINGS, in quantities
*Canadian Winkley Co., Limited, Windsor, Ont.

SMOKE CONSUMERS
*The Jones Underfeed Stoker Co., Ltd., Toronto.

SMOKE-STACKS
*Steel Trough and Machine Co., Ltd., Tweed, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.

SNAPS, for harness
*McKinnon Industries Limited, St. Catharines, Ont.

SOAPS
J. Barsalou & Co., Ltd., Montreal.

SOAP (soft, oil)
The Imperial Varnish & Color Co., Ltd., Toronto.
Sherwin-Williams Co. of Canada Limited, Montreal, Que.

SOCKETS
*Crouse-Hinds Co., Ltd., Toronto.

SODA WATER FOUNTAINS
J. J. McLaughlin, Ltd., Toronto

SODA WATER FOUNTAINS AND ACCESSORIES
Fletcher Mfg. Co., Ltd., Toronto.

SOIL PIPE
Anthes Foundry, Ltd., Toronto.

SOLDER
Alonzo W. Spooner, Ltd., Port Hope, Ont.
*Canada Metal Co., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

SOLDER, silver
Geo. H. Lees & Co., Hamilton.

SOLDER, wire and bar
*American Can Co., Montreal, and Hamilton.

SOLDERING IRONS AND COPPERS
Brown, Boggs Co., Ltd., Hamilton, Ont.

SNOWSHOES
Helt, Renfrew, Ltd., Quebec, Que.

SPECIAL MACHINERY
*Globe Engineering Co., Limited, Hamilton, Ont.

SPELTER
*Consolidated Mining & Smelting Co. of Canada, Limited, Toronto.

SPIKES, railway and marine
Starr Mfg. Co., Ltd., Dartmouth, N.S.

SPINNING AND STAMPING
Tallman Brass & Metal Ltd., Hamilton.

SPIRAL CONVEYORS
*Canadian Mathews Gravity Carrier Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

SPLIT PEAS
H. Murton, Ltd., Guelph, Ont.

SPIRITS
*Hiram Walker & Sons, Limited, Walkerville, Ont.

SPOOLS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.

SPORTING MEDALS AND TROPHIES
Roden Bros., Limited, Toronto.

SPRAYERS
Spramotor Co., London, Ont.

SPRING COTTERS
*Richards-Wilcox Canadian Co., Limited, London, Ont.

SPRINGS
*Canadian Steel Foundries, Ltd., Montreal, Que.
B. J. Coghlin Co., Ltd., Montreal.
Guelph Spring & Axle Co., Ltd., Guelph, Ont.

SPRINGS, carriage and automobile
Guelph Spring & Axle Co., Ltd., Guelph, Ont.

SPRING SHACKLE BOLTS
*Canadian Winkley Co., Limited, Windsor, Ont.
John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.

SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy, Mansell, Ltd., Toronto.
*Vogel Co. of Canada, Ltd., Montreal, Que.

SPROCKET WHEELS
*Canadian Link Belt Co., Ltd., Toronto.

STAINS
R. C. Jamieson & Co., Ltd., Montreal, Que.

STAINS, creosote shingle
A. Muirhead Co., Ltd., Toronto.

STAMPINGS
*Dominion Forge and Stamping Co., Ltd., Walkerville, Ont.
*Wentworth Mfg. Co., Hamilton.

STAMPINGS, heavy steel
Canadian Cartridge Co., Ltd., Hamilton, Ont.

STAMPS, steel, brass and rubber
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

STAMP MILLS
*Jenckes Machine Co., Sherbrooke.

STATIONERY, office
Harris Lithographing Co., Toronto.

STEAM PIPE and BOILER COVERINGS, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.

STEAM SHOVELS
*M. Beatty & Sons, Ltd., Welland.

STEAM SPECIALTIES
*C. A. Dunham Co., Ltd., Toronto.
*Darling Bros., Ltd., Montreal.
*Sheldons, Ltd., Galt.

STEAM TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Manufacturing Co., Limited, Woodstock.

STEEL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.

STEEL BILLETS AND BLOOMS
*The Steel Company of Canada, Limited, Hamilton.

STEEL BUILDINGS
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal.
*McGregor & McIntyre, Ltd., Toronto.
*Mackinnon, Holmes & Co., Ltd., Sherbrooke, P.Q.
*The Pedlar People Limited, Oshawa.
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont.
*The A. B. Ormsby Co., Limited, Toronto.

STEEL CABINETS
J. & J. Taylor, Ltd., Toronto.

STEEL CASTINGS
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton.

STEEL DOORS, rolling
*The A. B. Ormsby Co., Limited, Toronto.

STEEL FILING EQUIPMENT
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

STEEL PLATE WORK
*Mackinnon, Holmes & Co., Ltd., Sherbrooke, P.Q.
*Toronto Iron Works, Ltd., Toronto.

STEEL RODS
*The Steel Co. of Canada, Ltd., Hamilton.

*For Display Advertisement see Index Page 43.

STEEL SASH
*Dennis Wire & Iron Works Co., London.
*Trussed Concrete Steel Co. of Canada, Limited, Walkerville, Ont.
*The A. B. Ormsby Co., Limited, Toronto.

STEEL SHELVING
*Dennis Wire & Iron Works Co., London.

STEEL WIRE RODS
*The Steel Company of Canada, Limited, Hamilton.

STEEL WAGON HARDWARE
*McKinnon Industries Limited, St. Catharines, Ont.

STELLITE
*Deloro Smelting & Refining Co., Ltd., Deloro and Toronto.

STENCILS, brass
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

STEPS, for buggies and carriages
*McKinnon Industries Limited, St. Catharines, Ont.

STEREOTYPING
Central Press Agency, Toronto

STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto.

STOOLS AND BENCHES, piano and organ
*Otterville Mfg. Co., Ltd., Otterville, Ont.

STOOLS, steel factory
*Steel Trough and Machine Co., Ltd., Tweed, Ont.

STONE
The Hagersville Contracting Co., Hagersville, Ont.

STONEWARE
*Jas. W. Foley & Co., St. John, N.B.

STORAGE BATTERIES
*Canadian General Electric Company, Ltd., Toronto.

STORE FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.

STOVES
Smith Foundry Co., Ltd., Fredericton, N.B.
Tudhope-Anderson Co., Limited, Orillia, Ont.

STOVE LININGS
Standard Clay Products, Ltd., St. Johns, Que.

STOVES AND RANGES
Lee Mfg. Co., Ltd., Pembroke, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
McClary Mfg. Co., London, Ont.

STRAWS, paper drinking
Fletcher Mfg. Co., Ltd., Toronto.

STRAWBOARD
*Canada Boxboard Co., Limited, Montreal, Que.

STREET LIGHTING FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.

STRETCHERS, lace curtain
*Otterville Mfg. Co., Ltd., Otterville, Ont.

STRUCTURAL STEEL
*Canadian Allis-Chalmers, Limited, Toronto.
*Dominion Bridge Co., Montreal.
*Hamilton Bridge Works Co., Ltd., Hamilton.
*Manitoba Bridge & Iron Works, Ltd., Winnipeg.
*McGregor & McIntyre, Ltd., Toronto.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*The Canadian Bridge Co., Ltd., Walkerville, Ont.

STUMP EXTRACTORS
*The John Whitfield Company, Toronto, Ont.

SUIT CASES
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto.

SUPPLY DEALERS
*The Foundation Co., Limited, Montreal.

SURFACERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

SWITCHBOARDS
*Canadian General Electric Company, Ltd., Toronto.
*Crouse-Hinds Co., Ltd., Toronto.

SWITCHES
*Crouse-Hinds Co., Ltd., Toronto.

SWITCHES, railway
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.

SWITCHES AND FROGS
*Canadian Steel Foundries, Ltd., Montreal, Que.

SWITCH STANDS
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.

TABLE COVERS, chenille
Hamilton Cotton Co., Hamilton,

TANKS
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*Toronto Iron Works, Ltd., Toronto.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
Goold-Shapley-Muir Co., Ltd., Brantford, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*The Goldie & McCullough Co., Ltd., Galt.
*The Waterous Engine Works Co., Ltd., Brantford.

TANKS, steel storage
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*Steel Trough and Machine Co., Ltd., Tweed, Ont.

TANNERS' SUPPLIES
McClary Mfg. Co., London, Ont.

TAPS
*Butterfield & Co., Rock Island, P.Q.
*Pratt & Whitney Co., Dundas.

TAPES, measuring
The Lufkin Rule Co., of Canada, Ltd., Windsor, Ont.

TELEPHONE ACCESSORIES
*Canadian Independent Telephone Co., Toronto.
*Northern Electric Co., Limited, Montreal, Que.

TENTS
Turner, J. J., & Sons, Peterboro,
*Scythes & Co., Ltd., Toronto.

TERMINALS, electric cable
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

TERRA ALBA
*Albert Mfg. Co., Hillsborough, N.B.

TERRA COTTA (architectural)
Toronto Plate Glass Importing Co., Ltd., Toronto.

TEXTILE SUPPLIES (shuttles, bobbins, spools and picker sticks.)
The Lachute Shuttle Co., Limited, Lachute Mills, P.Q.

THUMB SCREWS
*Canadian Billings & Spencer,, Ltd., Welland.

TIE TAMPERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

TIE PLATES, for railways
*McKinnon Industries Limited, St. Catharines, Ont.

TILING, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd.

TIME RECORDERS
*International Business Machines Co., Limited, Toronto.

TIRES, bicycle, auto, carriage, truck, motorcycle
Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd.

TOOLS
*The John Whitfield Company, Toronto, Ont.

TOOLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

TOOLS, track
B. J. Coghlin Co., Ltd., Hamilton.

TOOLS, sheet metal workers'
Brown, Boggs Co., Ltd., Hamilton.

TRACK, steel, portable
Hammant Steel Car and Engineering Works, Hamilton.

TRADE MARKS AND DESIGNS
Ridout & Maybee, Toronto.

TRANSFORMERS
*Canadian General Electric Company, Ltd., Toronto.
*The Canadian Crocker-Wheeler Co., Limited, St. Catharines.

TRANSLATIONS INTO FRENCH
Raoul Renault, Quebec City.

TRANSMISSION MACHINERY
Bond Engineering Co., Toronto.
*Canadian Link Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford.

TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Mfg. Co., Woodstock.

TROLLEYS
*Richard-Wilcox Canadian Co., Limited, London, Ont.
*Northern Crane Works, Limited, Walkerville.

TRUCKS
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton.
*Northern Crane Works, Limited, Walkerville.

TRUCKS, brick, tile and lumber
*Waterous Engine Works Co., Ltd., Brantford.

TRUCKS, motor
*National Steel Car Co., Limited, Hamilton.

TRUCKS, warehouse and factory
The W. S. Mahaffy Co., Toronto.

TRUCKS, steel, forge and foundry
Hammant Steel Car and Engineering Works, Hamilton.

TRUCKS FOR OFFICE AND VAULT USE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

TRUNKS
Lamontagne Ltd., Montreal, Que.
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto.

TUBING, brass and copper
*Booth-Coulter Copper & Brass Co., Ltd., Toronto.
Canadian Seamless Wire Co., Toronto.
*Tallman Brass and Metal Co, Hamilton, Ont.
*Dominion Copper Products Company, Limited, Montreal.

TUBING, gold and silver
Canadian Seamless Wire Co., Toronto.

TUBS, Ice cream
Fletcher Mfg. Co., Ltd., Toronto.

TUMBLERS, foundry
*Northern Crane Works, Limited, Walkerville.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

TURBINES, steam
*The Canadian Crocker-Wheeler Co., Limited, St. Catharines.

TURBINE PUMPS
*The Goldie & McCulloch Co., Limited, Galt, Ont.

TURPENTINE
*Brown Corporation, La Tuque, Que.

TWEEDS
Rosamond Woollen Co., Almonte, Ont.

TWINES
*Doon Twines Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.

TWINES, binder
Brantford Cordage Co., Ltd., Brantford, Ont.

TWINES, cotton
Hamilton Cotton Co, Hamilton, Ont.

TWIST DRILLS
*John Morrow Screw and Nut Co., Ltd., Ingersoll.
*Pratt and Whitney Co., of Canada, Dundas, Ont.
*The Wilt Twist Drill Co., Ltd., Walkerville, Ont

UNDERWEAR
Galt Knitting Co., Ltd., Galt, Ont.

UNDERWEAR, imperial
Kingston Hosiery Co., Ltd., Kingston, Ont.

UNIONS
*Dart Union Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.

UPHOLSTERED FURNITURE, leather and tapestries
Imperial Rattan Co., Ltd.

VALVES
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*Jenkins Bros., Ltd., Montreal.
*Kerr Engine Co, Ltd., Walkerville.
T. McAvity & Sons, Ltd., St. John, N.B.
*Penberthy Injector Co., Ltd., Windsor.

VALVES, for steam and water
*Jenkins Bros., Ltd., Montreal.
*Mueller Mfg. Co., Ltd., Sarnia.
*Penberthy Injector Co., Ltd., Windsor.
James Morrison Brass Mfg. Co., Limited, Toronto.

VALVES, pressure reducing
*Mueller Mfg. Co., Ltd., Sarnia.

VALVES, regrinding globe, angle, cross checks, swing checks.
*Mueller Mfg. Co., Ltd., Sarnia.
Penberthy Injector Co., Ltd., Windsor, Ont.

VALVES, regulating
*Mueller Mfg. Co., Ltd., Sarnia.

VALVES, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto.

VARNISHES
*Ault & Wiborg Co of Canada, Ltd., Toronto.
Berry Bros., Walkerville, Ont.
R. C. Jamieson & Co, Ltd., Montreal, Que.

VAULT FITTINGS, steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

VAULTS AND VAULT DOORS
*The Goldie & McCullough Co., Ltd., Galt
J. & J. Taylor, Ltd., Toronto.

VENTILATING APPLIANCES
*Sheldons, Ltd., Galt.

VENTILATING SYSTEMS
Gurney Foundry Co., Ltd., Toronto.

VENTILATORS
*A. B. Ormsby, Ltd., Toronto.
*The Pedlar People Limited, Oshawa.

VOLTMETERS AND AMMETERS
*Crouse-Hinds Co., Ltd., Toronto.

WAGONS
TudhopeAnderson Co., Ltd., Orillia,

WAGON HARDWARE
*McKinnon Industries Limited, St. Catharines, Ont.

WALL COPING
Standard Clay Products, Ltd., St. Johns, Que.

WASHERS
*The Steel Company of Canada, Limited, Hamilton.
*United Brass & Lead, Ltd., Toronto

WASHERS, plate or wrought
London Rolling Mill Co., Ltd., London, Ont.

WASTES, wool and cotton
Factory Waste and Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto.

WATERPROOF, cement coating
Benjamin Moore & Co, Ltd., Toronto.
*The Barrett Co., Ltd., Toronto and Montreal.
*Trussed Concrete Steel Co. of Canada, Limited. Walkerville, Ont.

WATER WHEELS
*Canadian Allis-Chalmers, Limited, Toronto.

WEBBING, elastic
Hamilton Cotton Co., Hamilton

WEBBING, non-elastic
Hamilton Cotton Co., Hamilton

WELDING APPARATUS AND MATERIALS
*The Prest-O-Lite Company.

WELL-DIGGING TOOLS AND MACHINERY
*Ontario Wind Engine & Pump Co., Ltd., Toronto.

WHEEL FLANGES
*McKinnon Industries Limited, St. Catharines, Ont.

WHEELS
*Canadian Car & Foundry Co., Ltd., Montreal, Que

Wheels, corundum
*Canadian Hart Wheels, Ltd., Hamilton, Ont.

WHEELS, emery
*Canadian Hart Wheels, Ltd., Hamilton, Ont.

*For Display Advertisement see Index, Page 43

WELL DRILLING TOOLS AND MACHINERY
Oil Well Supply Co, Ltd., Petrolia. Ont.
WHIPS AND LASHES
Lay Whip Co., Rock Island, Que.
WHIPSOCKETS
*McKinnon Industries Limited, St. Catharines, Ont.
WHITE ARSENIC
Coniagas Reduction Co., Ltd., St. Catharines, Ont
WHITE LEAD
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal
WINDMILLS
*Goold-Shapley-Muir Co., Limited, Brantford, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*Medicine Hat Pump & Brass Mfg. Co., Medicine Hat, Alta.
WINDOW SHADES
Daly & Morin, Montreal, Que.
WIRE
*The Steel Company of Canada, Limited, Hamilton.
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.
*Eugene F. Phillips, Electrical Works, Ltd., Montreal.
The Graham Nail Works, Toronto.

WIRE BALE TIES
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.
WIRE CLOTH
*Canada Wire & Iron Goods Co. Hamilton.
C. H. Johnston & Sons, Ltd., Montreal, Que.
WIRE, feeder and trolley
*Eugene F. Phillips, Electrical Works, Ltd., Montreal.
*Standard Underground Cable Co of Canada, Ltd., Hamilton, Ont.
WIRE GUARDS
*Canada Wire & Iron Goods Co. Hamilton.
C. H. Johnston & Sons, Ltd., Montreal, Que.
WIRE, insulated electric
*Northern Electric Co., Limited, Montreal.
*Eugene F. Phillips, Electrical Works, Ltd., Montreal.
*Standard Underground Cable Co of Canada, Ltd., Hamilton, Ont.
WIRE, weatherproof
*Northern Electric Co., Limited, Montreal.
*Eugene F. Phillips, Electrical Works, Ltd., Montreal.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

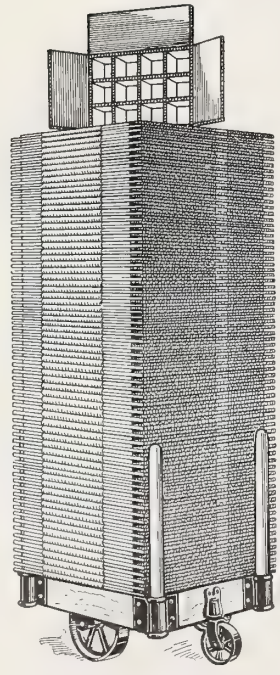
WIRE ROPE
*Dominion Wire Rope Co., Ltd., Montreal.
*The B. Greeening Wire Co., Ltd Hamilton.
WIRE WORK
C. H. Johnson & Sons, Ltd., Montreal, Que.
*Canada Wire & Iron Goods Co. Hamilton.
*The Geo. B. Meadows, Toronto Iron and Brass Goods Works Co. Ltd Toronto
WIRING DEVICES
*Crouse-Hinds Co., Ltd., Toronto.
WOOD
Standard Fuel Co., Toronto.
WOOD BORERS
*Canada Machinery Corporation, Limited, Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd. Montreal, Que.
WOOD PRINTERS
Barchard & Co., Ltd., Toronto.
WOOD PULP, mechanical
La Cie de Pulpe de Chicoutimi Chicoutimi, Que.
WOODBOARD
*Canada Boxboard Co., Limited, Montreal, Que.
WOOD SHOP, general work
*Canadian Rumely Co., Limited Toronto, Ont.

WOOD SPLIT PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd. Galt, Ont.
WOOD STAVE PIPE
T. A. Morrison & Co., Montreal.
WOOL
*H V. Andrews. Toronto.
WOOD TURNING
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
WORSTED COATINGS AND SUITINGS
Rosamond Woollen Co., Almonte.
WRAPPERS, book, bottle, etc.
*The Thompson & Norris Co., of Canada, Ltd., Niagara Falls, Ont.
WRENCHES
*McKinnon Industries Limited, St Catharines, Ont.
WROUGHT IRON PIPE
*The Steel Compony of Canada Ltd., Hamilton.
WROUGHT PIPE
*The Steel Company of Canada Ltd., Hamilton.
YARNS, cotton
Hamilton Cotton Co., Hamilton
ZINC, electrical
*The Canada Metal Co., Toronto.

*For Display Advertisement see Index, Page 43



Pioneer Manufacturers of Machine Knives and Metal Cutting Shear Blades in Canada.
THE PETER HAY KNIFE CO., LIMITED
GALT, ONTARIO



OUR SPECIALTY
FOLDING CELLBOARD
FREIGHT BOXES

ADAMS CELLBOARD COMPANY

MANUFACTURERS OF
SHIPPING CONTAINERS AND CORRUGATED PAPER
IMPORTERS OF
GUM SODA AND SEALING TAPES

We desire to have your samples or measurements to quote on when you are considering placing an order.

5 TO 21 DEFRIES STREET
AND DON ESPLANADE
TORONTO

VOL. XX., NO. 3 JULY, 1919 $2.00 PER YEAR

Industrial Canada

TORONTO CONVENTION NUMBER 1919

Intelligent, Effective Co-operation

THAT is the basis on which this advertising agency works with its clients. We study the merchandise and its selling value. We get the facts on its present and prospective market. We produce copy that is attractive in appearance and that possesses real selling power.

And our service is not limited to big advertisers. We always give the same attention to the smaller ones because we have had so many of them grow up with us.

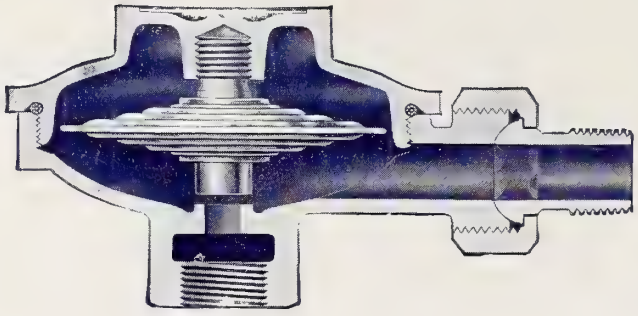
J. J. GIBBONS LIMITED

General Advertising Agents

MONTREAL TORONTO WINNIPEG

published by the CANADIAN MANUFACTURERS ASSOCIATION

HEAD OFFICE, TORONTO, ONT.



Inside Facts About Heating the "Dunham Way"

The DUNHAM HEATING SERVICE

The Dunham Radiator Trap is distinctive in the simplicity of its construction.

It is this fact that makes a Dunham Heating System so simple, yet so efficient.

The Dunham Radiator Trap is the heart of Dunham Heating. It gets rid of all air and water from the radiator but holds the steam in until every last bit of heat is given off. It does this automatically—no noise—no air valves on the radiators.

Dunham Heating is standard where efficient and economical operation is desired.

Dunham Heating Service in advising on heating problems is given without obligation.

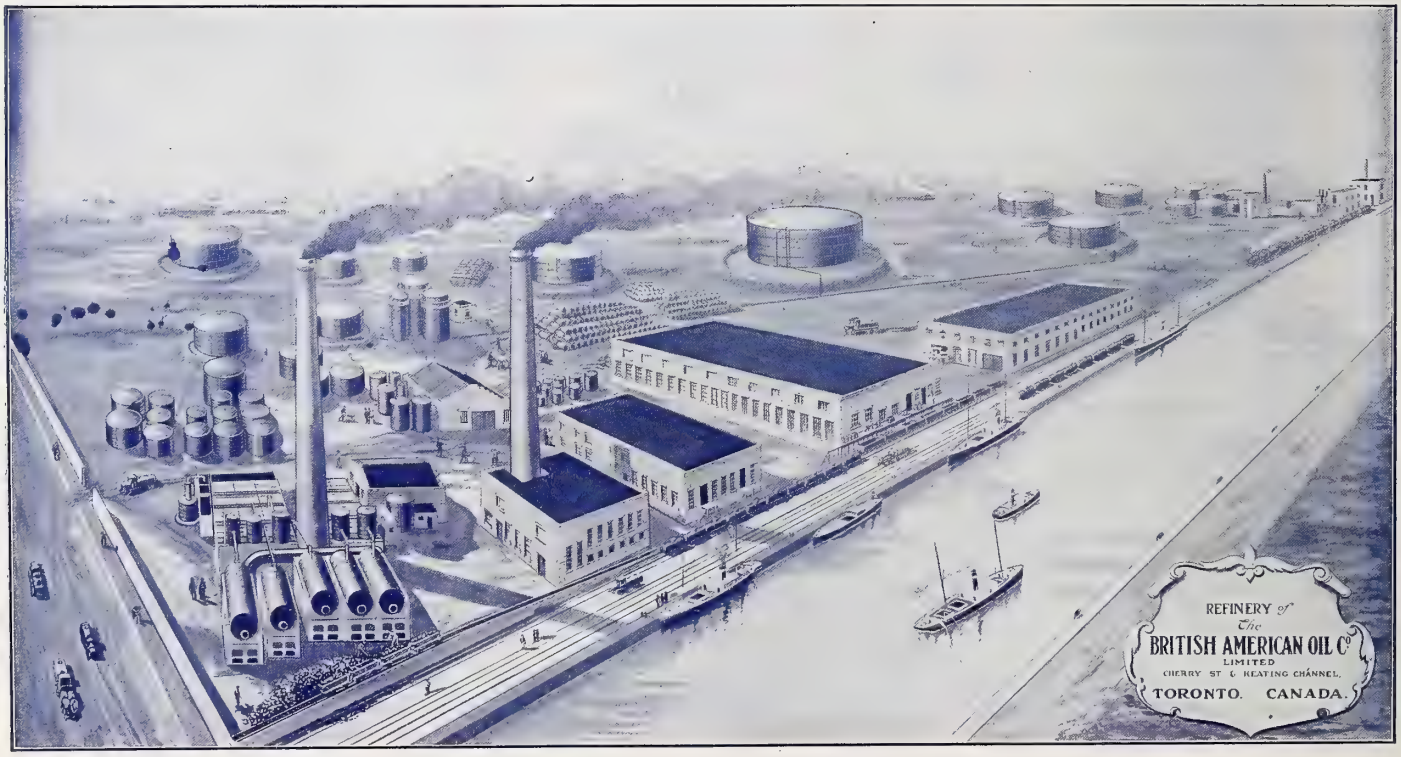
Complete details on request

C. A. Dunham Company, Limited

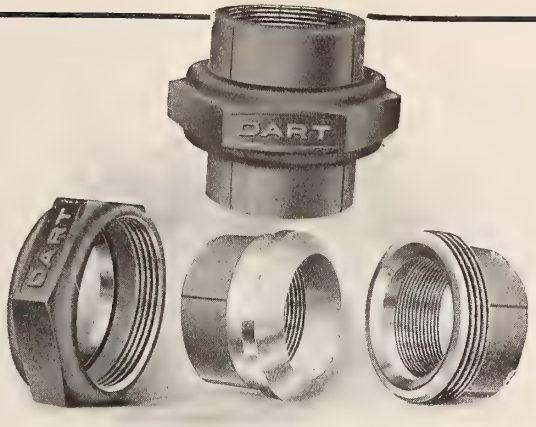
Toronto, Ontario

Halifax Montreal Ottawa Winnipeg Vancouver Calgary

THE BRITISH AMERICAN OIL CO., LIMITED



Head Office: ROYAL BANK BUILDING, TORONTO **Branches: Montreal, Ottawa, London, Windsor, Etc.**



DART UNION PIPE COUPLINGS STAY TIGHT

This Means No Upkeep Cost
No Replacement Cost. No Loss from Leaks

After once connected there is no further cost.
There is no rust or corrosion at the joint because bronze meets bronze.
And the heavy iron parts guard against stretching or pulling apart.

Your jobbers sell them

Manufactured by

DART UNION CO., Limited - - TORONTO

FACE AND SEAT ARE BRONZE (No Deterioration)

GRACE & CO., LIMITED

DOMINION EXPRESS BUILDING

MONTREAL - CANADA

EXPORTERS

IMPORTERS

With our own extensive connections embracing practically all markets of importance we are in an unusual position to advise Canadian Manufacturers regarding Export Opportunities and also to submit offerings of the raw materials in which they are interested.

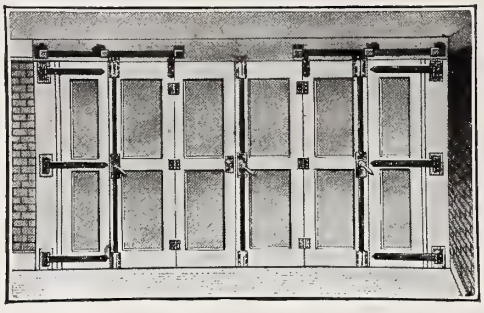
LONDON NEW YORK LIVERPOOL CALCUTTA
RIO DE JANEIRO LIMA TOKIO SHANGHAI SAN FRANCISCO
VALPARAISO CUBA JAMAICA BUENOS AYRES SANTOS
STOCKHOLM BARCELONA GENOA PARIS

Index to Advertisements.....Pages 295-296 Contents.....Pages 143 and 149

"A Hanger for Any Door That Slides"



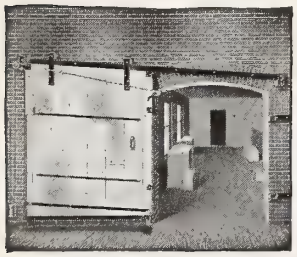
PARALLEL SLIDING DOORS.
For Garages and Drive Barns.
Any number of Doors in the series.



No. 237—FACTORY STANDARD GARAGE OUTFIT.
For openings up to 18 ft. wide and any desired height. Doors fold up in small space inside building and fit perfectly tight.



No. 235—ANGLE DOOR.
For Garage. Very popular. Costs no more than swing door. No warp. No accidents. Single or Double Doors.



FIRE DOORS AND FIRE DOOR HARDWARE.
All Styles: Slide, Swing, Vertical., etc., with Underwriters' Label.



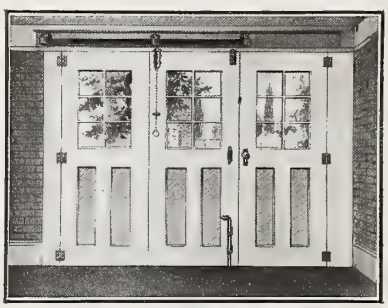
No. 431B—"SLIDETITE" OUTFIT.
Two doors open each way. Ice and snow does not interfere with operation; close perfectly tight. For openings 10 to 13 ft. wide.



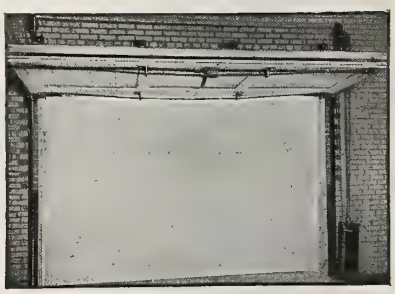
No. 649—HORIZONTAL FIXTURES.
For Elevator Openings, Freight Sheds.



FOLDING SLIDING DOORS IN CHURCHES, SCHOOLS OR THE HOME.
Most satisfactory way to hang such doors is on "R-W" Trolleys. Specify: "R.-W No. 135 Hangers."



No. 331A—"SLIDETITE" GARAGE OUTFIT.
Fits tight. No warp or sag.



No. 40—HORIZONTAL FOLDING FIXTURES.
For Freight Sheds, Elevator Openings. Inside or Outside.

CARRIER OVER-R-WAY SYSTEMS



"R-W" TROLLEY HANGERS.
For doors from 100 to 2,500 lbs. They have no equals.

Over-Way Carrier Systems pay for themselves in one year. Hundreds of references

Catalogues on Request



Great increase of factory efficiency and output with reduced costs of handling.

Write Us for Estimates



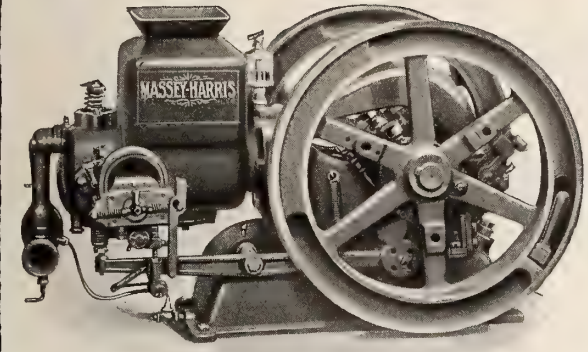
"BULL-DOG" JOIST HANGER.
All Styles.
They add strength.
Save time and money.

Richards-Wilcox Canadian Co. Ltd.

AURORA BOSTON NEW YORK CHICAGO London Ontario PHILADELPHIA MINNEAPOLIS SAN. FRANCISCO ST. LOUIS

"A hanger for any door that slides"

Massey-Harris



An Engine You Can Depend On

The Massey-Harris Engine can be depended on to give all the year 'round service in any kind of weather at minimum cost, because it's designed on scientific principles and every part built to stand up and wear long.

Think what these features mean:

Simple in operation.

A Simple and Efficient Carburetor gives a perfect mixture in any kind of weather.

Effective Governor—No charge or spark on Idle Stroke.

Valves Easily Removable.

Large Water Space surrounding Cylinder.

Safe Gasoline Storage in the substantial Cast-Iron Base.

Write for more detailed description of the Massey-Harris Gasoline Engine.

Made in Sizes to deliver from 2 to 15 H.P.

MASSEY-HARRIS CO., Limited

Head Office—Toronto, Canada

Canadian Branches at

Montreal Moncton Winnipeg Regina Saskatoon
Swift Current Yorkton Calgary Edmonton

AGENCIES EVERYWHERE



From 1888 to 1919

IS ALL THE TIME THERE IS IN THE ELECTRICAL BUSINESS.

CROCKER-WHEELER MOTORS, GENERATORS AND TRANSFORMERS ARE BUILT BY A COMPANY THAT HAS MADE GOOD CONTINUOUSLY SINCE 1888.

SERVICE DID IT.

ARRANGEMENTS HAVE BEEN MADE WITH

Northern Electric Company
LIMITED

Montreal Halifax Ottawa Toronto London
Winnipeg Regina Calgary Vancouver

WHEREBY YOU CAN GET CANADIAN CROCKER-WHEELER APPARATUS AND SERVICE ALL ACROSS CANADA.

THE CANADIAN CROCKER - WHEELER COMPANY, LIMITED

Manufacturers and Electrical Engineers

Head Office and Works: ST. CATHARINES, ONT.
District Offices: TORONTO and MONTREAL

SMALL TOOLS

MILLING CUTTERS

In High Speed or Carbon Steel



Plain Side Convex
Concave Angular
and
Special Forms

Special Inserted
Blade Cutters

Our tools are manufactured from the best materials procurable, by skilled workmen with most modern equipment.

QUALITY GUARANTEED

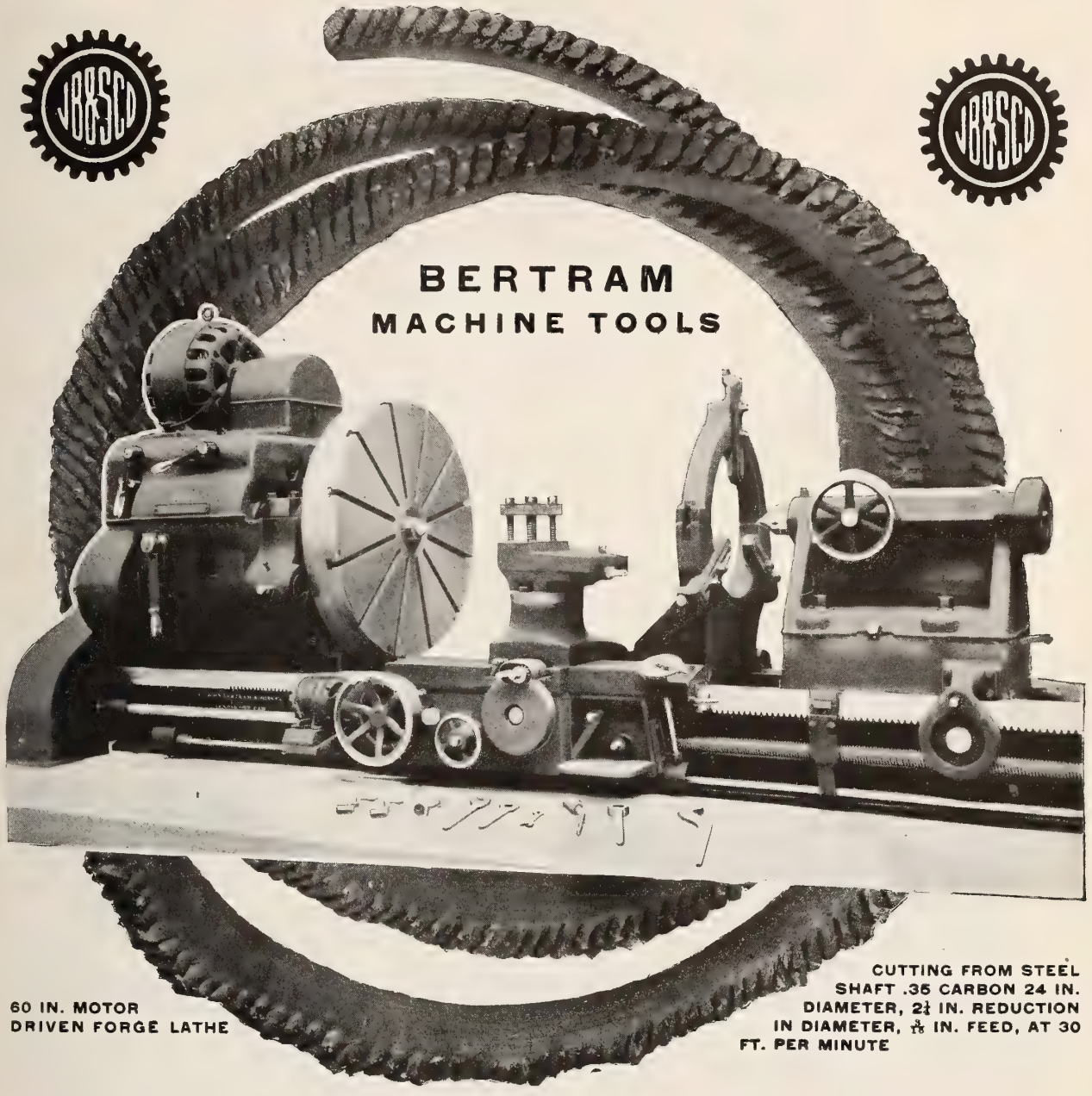
Prompt service is assured at our nearest store, where P. & W. Small Tools are stocked for immediate delivery.

Write for Our No. 9 Catalogue

PRATT & WHITNEY CO.

of Canada, Limited
Dundas - Ontario

HALIFAX	MONTREAL	TORONTO	WINNIPEG	VANCOUVER
Davidson Bldg.	723 Drummond Bldg.	1002 C.P.R. Bldg.	1205 McArthur Bldg.	B.C. Equipment Co.



60 IN. MOTOR DRIVEN FORGE LATHE

CUTTING FROM STEEL SHAFT .35 CARBON 24 IN. DIAMETER, 2¼ IN. REDUCTION IN DIAMETER, ⅛ IN. FEED, AT 30 FT. PER MINUTE

THE JOHN BERTRAM & SONS CO., LIMITED

DUNDAS - ONTARIO - CANADA

MONTREAL
723 Drummond Bldg.

TORONTO
1002 C.P.R. Bldg.

WINNIPEG
1205 McArthur Bldg.

HALIFAX
Davidson Bldg.

VANCOUVER
609 Bank of Ottawa Bldg.

FOUR FEATURES
OF THE
C.M.C. HEADSTOCK, on quick change geared lathes

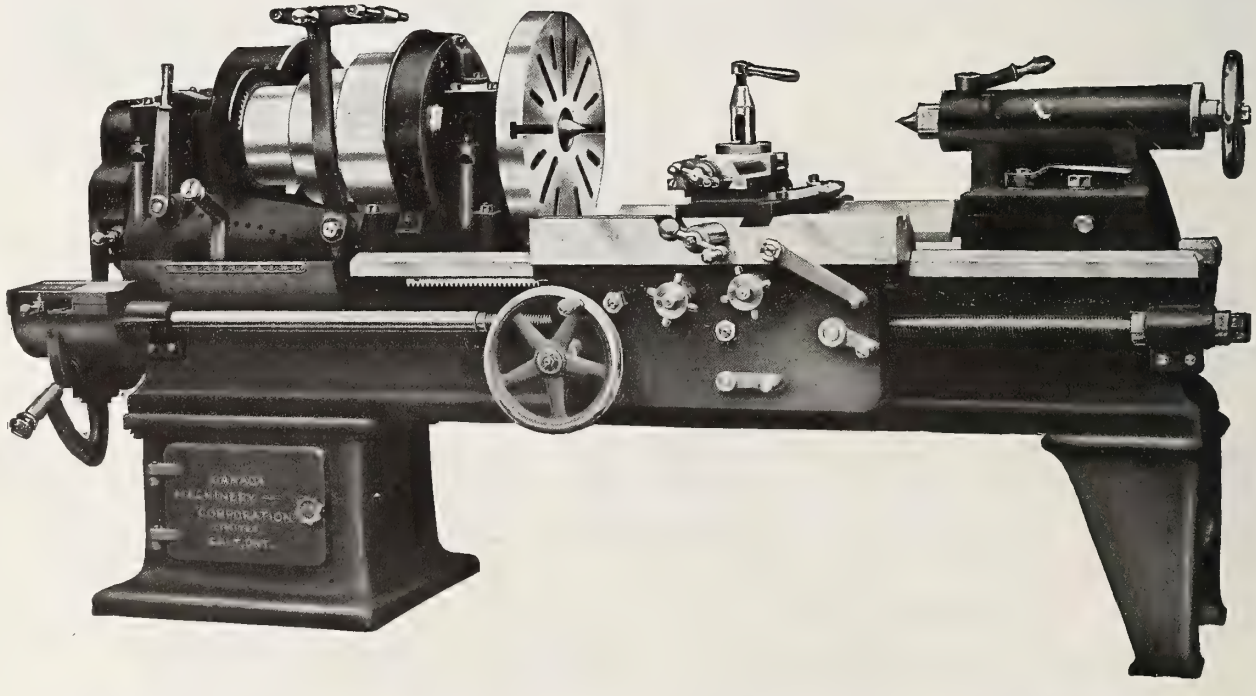
BUY W-S S WAR-SAVINGS STAMPS

(1) The three step cone double back geared drive permitting the use of extra wide belts and resulting in a strong drive combined with ample number of spindle speeds.

(2) The quick change gear mechanism which enables the operator to cut practically all the threads in every-day use without calculation or removal of gears.

(3) Our improved belt shifter which besides saving time forms a safety device preventing injury to the operator.

(4) Split phosphor bronze bearings with extra large oil chambers fed through large holes fitted with instantly removable plugs. No squirting with small oil cans through minute oil holes.



CANADA MACHINERY CORPORATION, LIMITED, GALT, ONTARIO

Toronto Office and Warerooms: Brock Avenue Subway

We have large stocks of

Shafting
Hangers
Pulleys
Couplings
Collars, etc.

Ready for Immediate Shipment

Phone Orders Receive
Immediate and Accurate Attention

DODGE

Manufacturing Co., Limited
TORONTO - - - - - ONTARIO

CANADA'S LARGEST BUILDERS OF TRANSMISSION MACHINERY

Get Our Prices On LUMBER



MANUFACTURERS who use either dressed or rough lumber in carload quantities will find our prices unusually advantageous. We operate our own timber limits covering 1,500 square miles particularly rich in

SPRUCE AND WHITE PINE

Our planing and resaw mills are complete in every detail, our whole organization being conducted on modern lines resulting in a highly efficient service, the benefits of which are felt and appreciated by every customer.

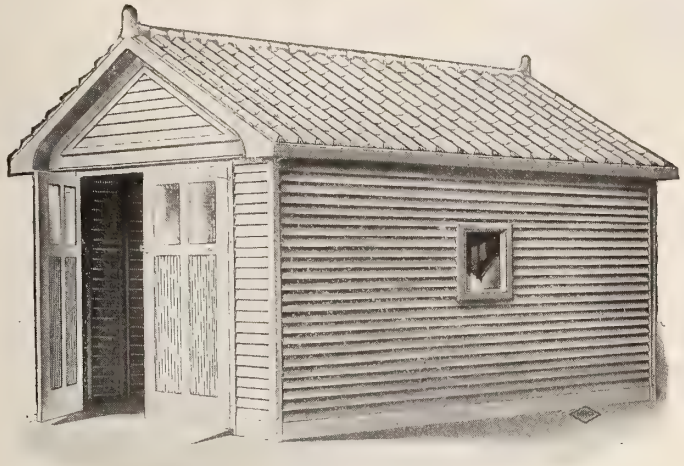
PULP

Our output of Kraft and Unbleached Sulphite Pulp is 50 tons of each daily. Your inquiry is invited.

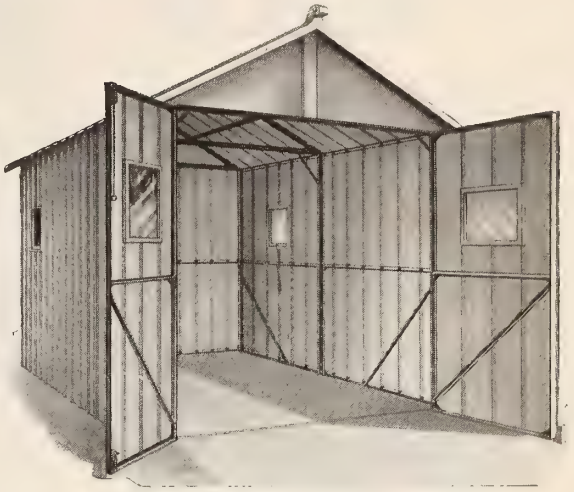
BATHURST

Bathurst Lumber Co., Limited, Bathurst, N.B.

"Quality First"



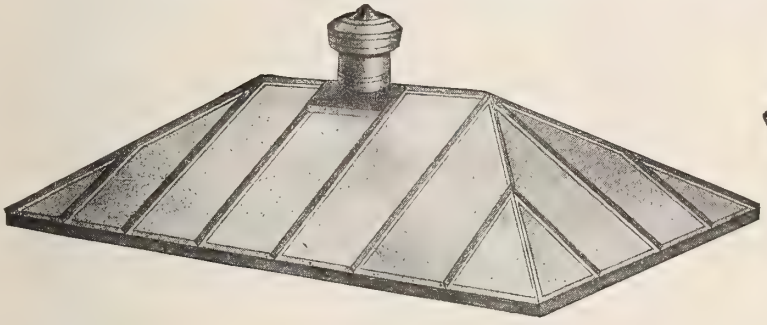
The "Urban" Style



The "Empire" (All-Steel) Type

Garages and other Light Buildings

Our Garage Catalogue shows FIVE DIFFERENT TYPES of light buildings which we furnish or which are easily built from stock sizes of lumber using our Materials as a covering. We furnish complete plans, etc. Get our proposition if needing anything of this kind. Our wide range enables us to suit any taste or purpose. Sizes up to 60 x 200 ft.





Design Registered, 1914

Skylights and Ventilators

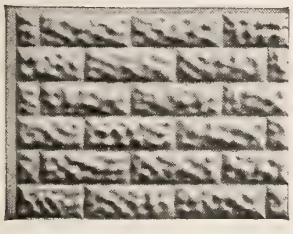
We make a wide range of styles of Skylights and Ventilators, separate, or combined as illustrated. Any desired size. We also manufacture a very superior line of

Troughs and Tanks

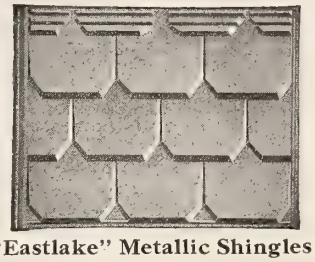
Metallic Ceilings

never crack or fall off

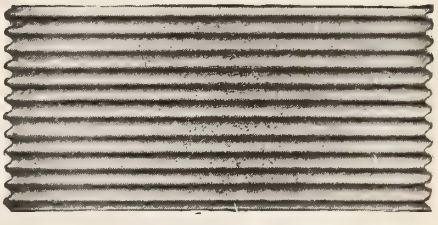
Fireproof, sanitary and absolutely permanent. Designs suitable for Offices, Warehouses, Stores and Residences. Can be put on over any surface. Booklet mailed on request.



Metallic Rock-Faced Brick Siding



"Eastlake" Metallic Shingles



"Empire" Corrugated Iron

The Metallic Roofing Co., Limited

MANUFACTURERS OF SHEET METAL BUILDING MATERIALS OF EVERY DESCRIPTION

Toronto and Winnipeg

RAW DOLOMITE

FOR

Blast Furnace Open Hearth

Cupola Flux

ALSO

Crushed Stone

For Concrete and Road Metal

Canada Crushed Stone Corporation

Limited

DUNDAS, ONT.

THE WABI IRON WORKS, LIMITED

ENGINEERS AND FOUNDERS

New Liskeard - Ontario

Makers of Mining and Pulp Mill Machinery

SPECIALISTS IN THE MANUFACTURE OF:

MINING MACHINERY

BALL MILLS
TUBE MILLS
MINE CAGES
MINE CARS
MINE SKIPS
DIAPHRAGM PUMPS
SAND PUMPS
SLIME PUMPS
CONCENTRATING TABLES (WILFLEY)
ORE BUCKETS
TUBE AND BALL MILL LINERS (GLOBE AND WAVE TYPE)
SHOES AND DIES
HARD IRON BALLS
MANGANESE STEEL BALLS

SAW MILL AND PULP MILL MACHINERY

LOG JACKS
SLAB OR SLUSH CONVEYORS
TRIMMERS
BURNERS
FRICTION FEEDS
KICKERS AND KICKER CYLINDERS
LIVE ROLLS AND DRIVES
CUT WOOD AND REFUSE CONVEYORS
CENTRIFUGAL PUMPS
TANKS
LOG HAULS

CASTINGS

WHITE IRON, GREY IRON, BRONZE, BRASS, AND CARBON, CHROME AND MANGANESE STEEL

CANADIAN TUBE & IRON CO., LIMITED

Manufacturers of

BOLTS and NUTS

Carriage Bolts, Plow Bolts
Coach and Track Bolts,
Lag Screws, Square Nuts,
Tire Bolts, Hexagon Nuts,
Machine Bolts, Boiler Rivets,
Sleigh Shoe Bolts, Tinners' Rivets,
Pressed Spike, Black and Galvanized

WROUGHT PIPE

Black and Galvanized, sizes ⅛ in. to 4 in., is thoroughly inspected and tested to 600 lbs. pressure, and every length is branded with our trade-mark.

We also Manufacture

NIPPLES and COUPLINGS

Black and Galvanized in all sizes

Works: Lachine Canal, Montreal

Selling Agents for

Canadian Rolling Mills Co., Limited

Works: Lachine Canal, Montreal

MANUFACTURERS OF

Bar Iron and Steel

IN ROUNDS, FLATS AND SQUARES

ALSO

Twisted Steel Bars for Reinforcing

Selling Agents for

Colonial Wire Mfg. Co. Limited

Works: Lachine Canal, Montreal

MANUFACTURERS OF

SMOOTH STEEL WIRES

Bright, Annealed, Oiled and Annealed, Coppered and Tempered Spring.

TINNED MATTRESS WIRE
BROOM WIRE FINE WIRES
(Plain and Galvanized)

FENCE STAPLES
WIRE NAILS
WOOD SCREWS

PUMP RODS
(Plain and Galvanized)

TRADE MARK

MORRIS CRANES

HAND OR ELECTRICALLY OPERATED

SPEEDY

SAFE

RELIABLE



B.91

POWERFUL

LIGHT

DURABLE

THEIR REPUTATION IS NOT THE RESULT OF CHANCE, IT IS THE OUTCOME OF UNDENIABLE SUPERIORITY IN SERVICE.

UNDERNEATH THIS REPUTATION YOU WILL FIND THE SUBSTANTIAL FOUNDATION OF REAL WORTH.

FOR OVER 30 YEARS WE HAVE SPECIALIZED IN THE MANUFACTURE OF ELECTRIC AND HAND-OPERATED OVERHEAD CRANES, JIB-CRANES, OVERHEAD-RUNWAYS, 1-BEAM TROLLEYS, CHAIN-BLOCKS, ASH-HOISTS, ETC. THIS EXPERIENCE WE PLACE AT YOUR SERVICE.

THE HERBERT MORRIS CRANE & HOIST COMPANY, LIMITED

HEAD OFFICE AND WORKS:
NIAGARA FALLS, ONTARIO

TORONTO OFFICE:
KENT BUILDING

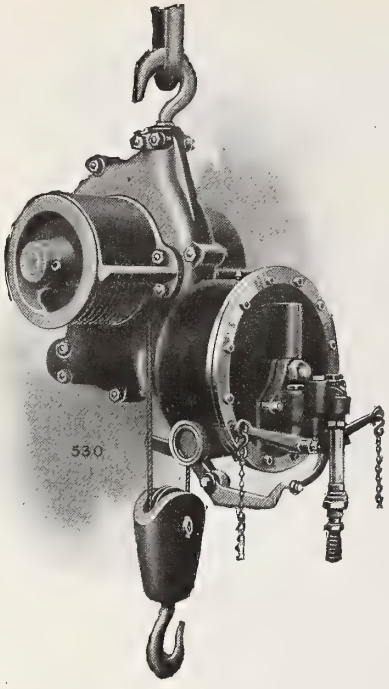
MONTREAL OFFICE:
296 ST. JAMES STREET



Meadows Metal Lockers

Some Companies are holding up on orders in hope of a drop in prices. If we all did that, business would come to a sudden stop. The best authorities say, "We are on a permanently high price level." Remember that while our prices are high, your sales are bringing you a greater amount of money in proportion, and you can buy now to better advantage than you will if prices should fall.

THE GEO. B. MEADOWS
TORONTO WIRE, IRON & BRASS WORKS CO
LIMITED
TORONTO ——— CANADA

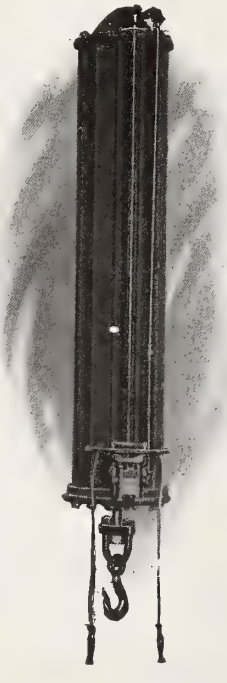


Spend Ten Cents to Save a Dollar

THE "IMPERIAL" MOTOR HOIST

The "Imperial" Motor Hoist has a three-cylinder balanced air motor of simple construction. The valve is self-centering and all hoists are fitted with automatic safety stop. Hoisting speed up to 100 ft. per minute, and adjustment of the load can be made to a fraction of an inch. Where head-room is limited, or extreme accuracy of control is desired you need the "Imperial" Hoist.

Air Hoists are never used continuously; take advantage of the fact that compressed air can easily be stored. One medium sized compressor can supply air for a number of hoists working at intervals; you do not have to worry about peak loads.



THE "CIRCO DIRECT-LIFT HOIST"

The "Circo Direct-Lift Hoist" is the cheapest form of power hoist both in first cost and running cost. The control is simple, and at the same time effective; the valves are always dependable, and the dust-proof feature of the construction is worthy of notice. This hoist is particularly adapted for work in foundries lifting copes, etc., operating furnace doors, in machine shops serving machine tools, in assembly shops, etc.

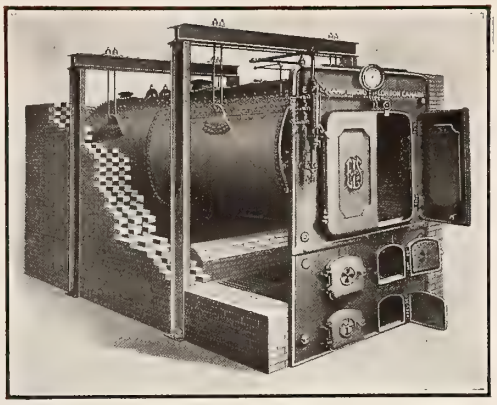
Both "Imperial" and "Circo Direct-Lift Hoists" in sizes from 1,000 lbs. to 5 tons capacity.

Canadian Ingersoll-Rand Company Limited

Sydney Sherbrooke Montreal Toronto Cobalt Winnipeg Nelson Vancouver

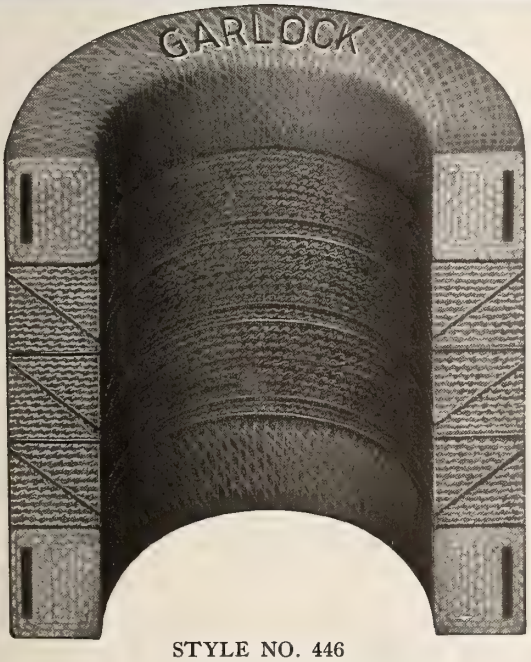
E. LEONARD & SONS, LIMITED
London, Ontario

Manufacturers of BOILERS, ENGINES of all types and sizes



BRANCHES:
1790 St. James St., Montreal, Que. 62 Water Street, St. John, N.B.

AGENTS:
Vancouver Machinery Depot, Limited, Vancouver, B.C. George Stewart, 5 Lineham Block, Calgary, Alta.
Wm. W. Hicks, 567 Banning St., Winnipeg, Man. Thos. A. Pippy, Waldegrave St., St. Johns, Nfld.
E. J. Philip & Sons, 103 Hamilton Trust Bldg., Toronto, Ont.



STYLE NO. 446

FOR PACKING

High Pressure Steam Rods
Use Garlock Style Number 200

Medium Pressure Steam Rods
Use Garlock Style Number 446

Low Pressure Steam Rods
Use Garlock Style Number 333

High Pressure Steam Joints
Use Garlock Style Number 950

Ordinary Steam Joints
Use Garlock Style Number 22

Worn or Scored Piston Rods
Use Garlock Style Number 336

Cold Water Piston Rods
Use Garlock Style Number 99

Inside Packed Plungers
Use Garlock Style Number 260

These packings are guaranteed to give satisfactory service under the above conditions.
Write for catalog.

The GARLOCK PACKING COMPANY, Hamilton, Ontario

Branches:
Calgary, Alta., 211 8th Avenue West
Montreal, Que., 409 Shaughnessy Bldg.
Winnipeg, Man., Galt Bldg.
Toronto, Ont., 404 Continental Life Bldg.

THE JONES UNDERFEED STOKER

—means more steam from less coal—



EVERY manufacturer developing his own steam power needs a **Jones** Underfeed Stoker.

The **JONES STOKER** is neither novel nor an experiment but the result of a quarter century's patient study and experience. Its remarkable simplicity has been obtained by omitting every frill and fad and including only simple necessities. There is a total absence of moving parts exposed to the fire.

In its design is embodied everything that goes for the economical and complete burning of coal under great fluctuations of load and widely varying fuel conditions. Savings of 15% to 25%, when burning any grade of fuel are the usual results from a Jones Underfeed Stoker installation.

WRITE FOR ILLUSTRATED BOOKLET

JONES UNDERFEED STOKER CO.

LIMITED

37-41 BRITAIN STREET, TORONTO

"RED SEAL"

COATED
BOOK

TRADE  MARK

REGISTERED

THE MARK OF QUALITY

MADE BY

RITCHIE & RAMSAY, LIMITED

TORONTO

CANADA

Western Agents: John Martin Paper Co., Limited, WINNIPEG

TRADE COATED R PAPER MARK

QUALITY, RELIABILITY, ECONOMY

"LUXACOTED"

PORCELAIN BOOK

THE ECONOMY IN USING THIS HIGH-GRADE COATED PAPER IS PROVEN BY THE EVER INCREASING DEMAND FOR IT.

PROTECTED BY REGISTERED TRADE MARK

MADE IN CANADA AND SOLD ONLY BY

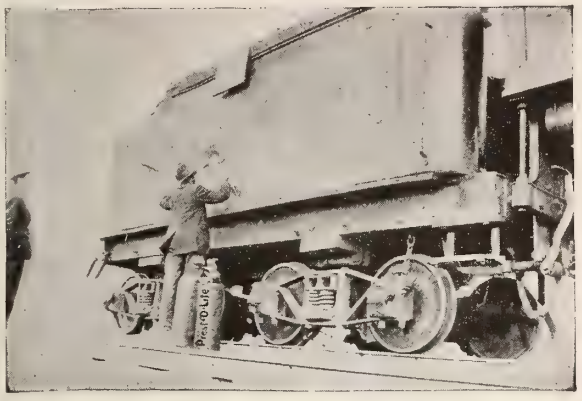
RITCHIE & RAMSAY, LIMITED

TORONTO

CANADA

Western Agents: John Martin Paper Co., Limited, WINNIPEG

Oxy-Acetylene Welding and Cutting





Rapid Repairing on the Spot

This illustration shows Prest-O-Lite operator repairing a leaky tank car right on the track, at a trifling expense, by the Prest-O-Lite Process of Oxy-Acetylene Welding. Many Railroads, Mines, Factories and Machine Shops have adopted this process, and are saving hundreds of thousands of dollars annually.

Time Saved in Cutting

Fourteen hundred tons of steel were twisted into the tangled mass of wreckage shown in the illustration above, as the result of a severe windstorm in a large southern city. All this wreckage was cut up by the Prest-O-Lite Process in 18 days and cleared away just 6 days ahead of the time specified by the contractor.

Prest-O-Lite

The Synonym for "SERVICE" from Coast to Coast

In the Storage Battery and Oxy-Acetylene Welding fields, the name ***Prest-O-Lite*** has long been synonymous with the word ***"Service"*** throughout Canada. Some years before the war the Prest-O-Lite Company, recognizing the importance of the Canadian field, came to Canada and established factories for the manufacture of store batteries and compressed acetylene gas.

Before the close of the year 1918, the present Canadian Company was incorporated under Canadian laws, with a capital stock of $800,000, with headquarters in the Prest-O-Lite Building, cor. Elm St. and Centre Ave., Toronto. In this building is the most modern and completely equipped storage battery plant in Canada to-day. The welding and cutting equipment is also made and marketed at the Toronto plant.

Prest-O-Lite compressed acetylene gas is produced in up-to-date plants located at Shawinigan Falls, P.Q., St. Boniface, Man., and Merritton, Ont., and the efficient Prest-O-Lite Service insures the prompt exchange of ... cylinders for empty ones.



Service Stations Everywhere

There are more than 130 Prest-O-Lite Battery Service Stations, located at convenient points for the use of motorists in every part of Canada.

We would be pleased to furnish full particulars of Prest-O-Lite Service as applied to Batteries or Welding.

Write NOW for literature.

PREST-O-LITE COMPANY
OF CANADA, LIMITED
Dept. C-104, Prest-O-Lite Building - TORONTO

Branches at:
Montreal, Toronto
Winnipeg

Plants at:
Toronto, Ont., Merritton, Ont.
St. Boniface, Man., Shawinigan Falls, P.Q.

INDUSTRIAL DESIGNS

Their Value Often Overlooked by Manufacturers

Many manufacturers overlook the value of industrial designs. A very great many of the products are duplicated by concerns trying to work into another firm's business. This is done every day, and if the original designer of the product had obtained an industrial design his concern would have had the exclusive right to manufacture that particular designed product.

Industrial designs are granted on toys, furniture, cabinets, ornaments, flags, tires and hundreds of other articles of every-day manufacture. Many new articles are placed on the market and soon find a good sale. Another manufacturer in a short time sees this new market, and takes steps to find how far the first manufacturer is protected. Finding that there is no industrial design registered, he starts to duplicate the article. The original manufacturer soon finds his market going down, while if he had used foresight and registered an industrial design, his concern would have enjoyed the exclusive market.

Let us look at the **"Nobby Tread"** automobile tires. When you are driving along the road, look at the car ahead. Has it "Nobby Treads"? Of course, you can't read the raised name on the side, but it's a "Nobby." The industrial design of the treads tells you, and this design keeps competitors away from that particular mould. Thus the "Nobby Tread" manufacturer has an exclusive business.

Another design that has brought in a few million dollars is the famous **Kewpie Doll.** Rose O'Neil first designed it, and sought protection. The results are well known.

When you are working on a new product, consult us regarding proper protection. Send your business direct to Ottawa, and let it receive the personal attention before the Government Departments that it requires. All business is strictly confidential and carefully handled. Only Attorneys with Head-Office at Ottawa.

HAROLD C. SHIPMAN — CANADIAN AND FOREIGN PATENT ATTORNEYS — A. L. K. SHILLINGTON

ASSOCIATES IN ALL FOREIGN COUNTRIES

HAROLD C. SHIPMAN & CO.

PATENTS
TRADE-MARKS. DESIGNS. COPYRIGHTS.

BRANCH WASHINGTON D.C.

131 BANK STREET — OTTAWA, CANADA

INTERNATIONAL HARVESTER CO.

OF CANADA, LIMITED

Works and Head Office at Hamilton
Wagon Works at Chatham

Eastern Branches:
Hamilton, London, Ottawa, Montreal, Quebec, St. John.

Western Branches:
Winnipeg, Brandon, Saskatoon, Regina, Calgary, Edmonton, Estevan, Lethbridge, Yorkton, North Battleford.

We manufacture from the ground up:

Harvesters, Threshers, Mowers, Self-Dump Rakes, Side Delivery Rakes, Hay Loaders, Scufflers, Cultivators, Peg Tooth Harrows, Spring Tooth Harrows, Disk Harrows, Hoe Drills; Single, Double Disk and Shoe Drills, Fertilizer Drills, Harrow Riding Carts, Manure Spreaders, Land Rollers, Wagons and Plows.

Also distributors of International

Kerosene Engines, Tractors, Ensilage Cutters, Hay Presses, Cream Harvesters, and Motor Trucks.

International Motor Trucks are built for heavy duty and low operating costs. Our many Branches together with our special truck experts insure A No. 1 service. Made in ¾, 1, 1½ and 2 ton sizes.

For Catalogue and full information apply to Hamilton Office, or any of our Branches.



SERVICE IS OUR MOTTO

TRADE-MARKS

One of Your Best Assets

What does Canada stand for? Canada has won a name for itself in the last five years, and it is known and spoken all over the world. This is going to be a wonderful asset for the manufacturing concerns throughout Canada. If you are going to introduce your goods in England, France, and other countries and say that they are "Made in Canada," that fact will be appreciated and you will find yourself entitled to a hearing.

But how about your own concern's goods? Are they known and are they entitled to a hearing, or are they just the common what-you-call-it line? To make a success of manufacturing a product and placing it on the market, the product should be trade-marked. Make your products carry a name, so that when they go to a pleased purchaser, he can again obtain your products. Remember, it is not the single sales that build a business, it is the repeated orders from satisfied purchasers. Teach these purchasers to ask for your goods by your trade-mark or trade-name, and you will soon appreciate that the trade-mark is a wonderful asset to your business.

Every firm knows "*Dart* Unions," "*C.E.G.* Electrical Goods," and "*Gillette* Razors." How do you know these names? It is not because that particular line of goods is superior, but because the firms making these particular products have made their trade-mark familiar to you. These trade-marks sell thousands of dollars worth of goods every year, because people know that these trade-marks are the guarantee and that the firms behind the goods are reputable.

IT PAYS TO HAVE SHIPMAN'S SERVICE

We make a specialty of designing attractive, forcible trade-marks, and would like an opportunity of designing such a trade-mark for your company, and we will take the time to study out the features of your goods, and, if you have not a particular mark in view, we will draw up a design for your approval. We feel that after getting together on the matter, you will see that it is a valuable asset of your business which you have been overlooking.

For Foreign Trade-marks. You should be very careful sending out your goods, so that foreign purchasers will know that when they ask for YOUR goods, they will receive the product of your firm bearing your stamp of guarantee. We are in a position to handle foreign Trade-mark applications with the least possible delay.

Why not write us to-day, asking us to submit a suggestive trade-mark for your approval. Have your goods branded and ready for repeated sales. It pays to have Shipman's, at Ottawa, to give your business prompt, personal attention.

HAROLD C. SHIPMAN — CANADIAN AND FOREIGN PATENT ATTORNEYS — A. L. K. SHILLINGTON

ASSOCIATES IN ALL FOREIGN COUNTRIES

HAROLD C. SHIPMAN & CO.

PATENTS

TRADE-MARKS. DESIGNS. COPYRIGHTS.

BRANCH WASHINGTON D.C.

131 BANK STREET — OTTAWA, CANADA

New Opportunities Ahead

Why Not Go Forward and Go Protected

Canada is on the outskirts of a new era. The Great War has done a great deal to change the commercial life of the world, and more especially the North American countries, where we gave men and material, but our country was not shattered. By giving our men we have an element coming back to our country who now are well acquainted with the fact that unity means strength. By giving our material, we uncovered many new resources, whereby we found that we could do things we never dreamed that it was possible to do, and we learned to do better and more efficiently the things we were doing.

To-day the manufacturing plants throughout Canada have to look ahead for a bigger and better Canada, and it is the manufacturing concerns that are going to help to mould our destiny. Money is turned over by the people of our country, but new money is only brought in by labor using its energy on our material resources to increase their value.

We have found that many of the manufacturing concerns in Canada spend their entire energy to producing and filling orders. This is good business, but with the new era before you there is something greater in it for you if you will only stop to look around. There are new devices coming out every day in your particular line of manufacture; there are new methods of manufacturing your particular line of manufacture; there are new improvements in selling your particular line of manufacture, *but are you improving your particular line of manufacture.* He that stands still will soon be lost.

Every manufacturing concern, whether large or small, should have a Patent Department. Years ago business firms hired a bookkeeper, while to-day they employ an accountant, who not only looks after the accounting books of the concern, but is a general superintendent of the interests of the concern. In many cases he has been found to be of value to the concern in keeping records of manufacturing and selling costs; in finding out what department was doing the best for the business; in checking up the production and many other tabulated records that a few years ago would have been considered an outlandish expense. It is the firms who keep their finger on the pulse to-day that are making the best success, because they know exactly what it costs and what it sells for.

OUR BUSINESS HAS BEEN BUILT ON THE SERVICE WE GIVE

Some of the larger firms have had for some years a Patent Department right in their office. Unless you have an extensive amount of patent work, the overhead expense of this would be too much for the ordinary manufacturing firm. But this does not hinder you from having your Patent Department as part of your business organization. Our yearly service plan covers your entire patent business. It places in your office a complete record system of your patents, many particulars about your competitors' patents, draws your attention to new patents being taken out on lines similar to your line of manufacture, advises you how far you could duplicate it without infringing, gives you reports of validity or patentability of a patent or invention.

Our yearly service plan, also, includes our Attorney work in the preparation of Canadian and Foreign applications. It is to your interests to turn over all matters dealing with patents for our examination and advice, so that the heads of your concern will be in a position to deal carefully and to the best interests of the firm. We do not desire to act as advisors of your business, but by having our advice on patent matters we might often put you right before you act, and thus save you considerable money.

May we have the pleasure of placing our yearly service plan before you? We want your business, and feel that if you give us an opportunity, you will soon appreciate that your Patent Department will show as an asset which now might look as an outlandish expense. Remember, there are new manufacturing opportunities ahead. Why not go protected? Write us to-day for particulars of our yearly service. Send your business direct to Ottawa and receive prompt and personal attention.

HAROLD C. SHIPMAN — CANADIAN AND FOREIGN PATENT ATTORNEYS — A. L. K. SHILLINGTON

ASSOCIATES IN ALL FOREIGN COUNTRIES

HAROLD C. SHIPMAN & CO.

PATENTS

TRADE-MARKS. DESIGNS. COPYRIGHTS.

BRANCH WASHINGTON D.C.

131 BANK STREET — OTTAWA, CANADA



Let Our Service Dept. Do Your Worrying

LET US INCREASE YOUR BUSINESS

"It Pays to Have Shipman's Service"

No doubt many times you are worried when you see a competitor make good on a particular line which you could have manufactured had you only been on the alert by having a department whose duty it was to look after new production and improvements in your old production. Our service department has made a special study of assisting manufacturing concerns to build exclusive businesses.

By this service, we send our representative to your factory to look over your methods of producing, your finished products, your selling features and methods, find out what the retailers and consumers think of your goods; in fact, we make a thorough analysis from the production to the men to whom you sell. We do not desire to tell you how to run your business, but we find many manufacturing concerns overlooking small but valuable assets in production or in selling features, which, with very little expense, could be added to their line of manufacture to make it more valuable.

In working up exclusive business, great care should be taken to carefully protect your product. Certain articles can be patented, while on others industrial designs can be registered. Many manufacturers without foresight do not figure the valuable asset that a business founded on exclusive production will ultimately become. You only have to look around you in your own line of manufacture to see many articles that you know you could make money on, but your competitor has the exclusive rights. Through our service department we assist you in designing equipment and production and following the same through to the purchaser. Under these conditions, our service is continually co-operating with you, and you will soon figure it as one of your permanent departments.

Our offer to new clients is that we will be pleased to have a consultation with the heads of their firms, and after this and a general analysis of your methods of selling and production, we will report as to how and where we could increase your business and state the approximate amount it should be increased. After a consultation with you on this, our organization is prepared to enter into an agreement with you whereby we agree and guarantee to increase your business to the extent that we feel confident it can be increased, and if, within the time specified in our agreement, we cannot show an increase to that extent, we do not get any remuneration for our services. In other words, we place our experience and organization against our ability to work up and maintain new business for you.

Write us to-day, stating when we can have a consultation with you regarding the increasing of your business.

HAROLD C. SHIPMAN & CO.

BUSINESS BUILDERS

131 BANK STREET OTTAWA, CANADA

SERVICE THAT COUNTS

When You Want

PATENTS

TRADE-MARKS

INDUSTRIAL DESIGNS

SEARCHES OR REPORTS

Write direct to us at Ottawa. We give all matters prompt and personal attention. Our Mr. Shipman is a Registered Patent Attorney, with many years of experience before the Patent Office.

Being next door to the Patent Office, we have personal interviews with Examiners, thus often facilitating earlier allowance of your Patent. We have access to all Records and solicit the business of Manufacturers, Engineers, and others who realize the advisability of having their Patent business transacted by Experts.

If you have much Attorney work, why not get particulars of our yearly service. Write us to-day.

Harold C. Shipman & Co.
Registered Patent Attorneys
Head Office: OTTAWA, CANADA
Branch Office: Washington, D.C.
Associates in all Foreign Countries
(Only Patent Attorney with Head Office at Ottawa)

Marine and Machinery

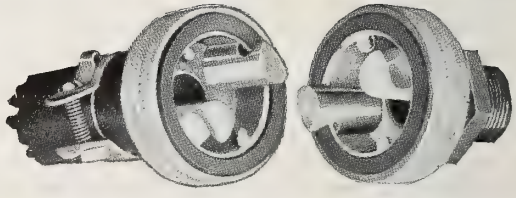
Forgings

ABATTOIR AND PACKING HOUSE MACHINERY AND SUPPLIES.

SPECIAL MACHINERY AND REPAIRS.

TOOLS, GEARS, CHAINS, MINING AND CONTRACTOR'S TOOLS.

THE JOHN WHITFIELD CO.
LIMITED
33 Sherbourne Street
TORONTO
Established 1874



PATENTED IN CANADA AND UNITED STATES

Noakes'

Universal Air Hose Coupler

SIMPLE — INTERCHANGEABLE — DURABLE

Some of the features of this Coupler

Has Perfect Locking Device
Has Non-blow-out Gasket
Has No Outside Lugs or Obstruction
Has No Obstruction to Flow of Air

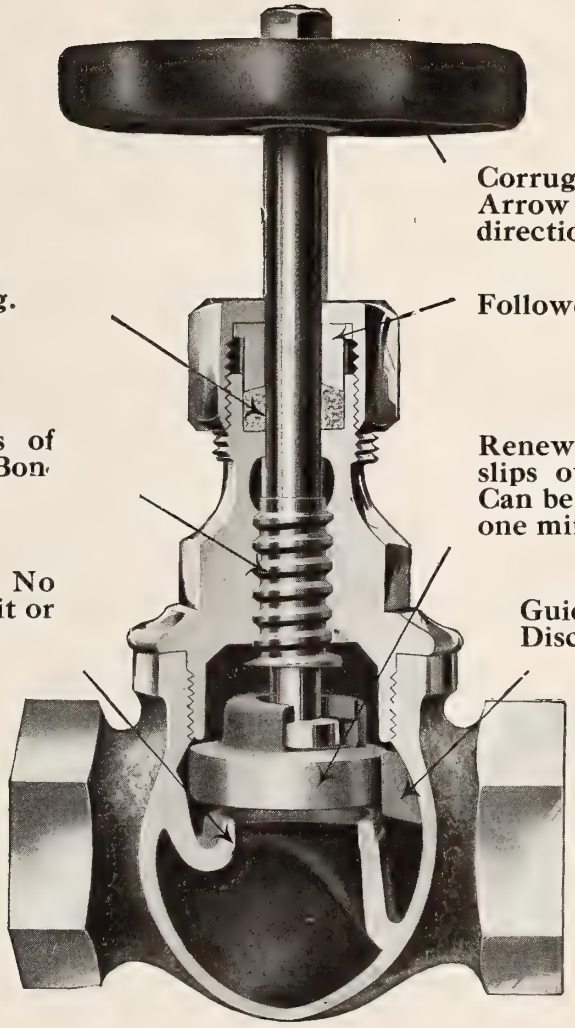
Made in
NON-RUST MALLEABLE CASTINGS
Fitted with high-grade rubber gasket, flange to take grip hose-clamp and spiral shank.

Standard Sizes—

Hose to Hose	$\frac{1}{2}$"	$\frac{3}{4}$"
Male Pipe	$\frac{1}{2}$"	$\frac{3}{4}$"
Female Pipe	$\frac{1}{2}$"	$\frac{3}{4}$"

Manufactured by the
CANADIAN PNEUMATIC TOOL CO. Limited
25 and 27 St. Antoine Street
MONTREAL

Fairbanks Renewable Disc Valves



Corrugated Iron Wheel, Arrow cast on wheel shows direction valve opens.

Palmetto Twist Packing.

Follower in Stuffing Box.

At least Four Threads of Spindle engaged with Bonnet at all times.

Renewable Bakelite Disc slips over end of spindle. Can be replaced in less than one minute.

Raised Round Seat. No sediment can lodge on it or injure disc.

Guide cast on Body holds Disc centrally over seat.

Globe or Angle

Screwed or Flanged



The disc of the Fairbanks Renewable Disc Valve can be renewed in less than a minute without removing the valve from the line, a wrench being the only tool necessary.

Everything in Mechanical Goods

The Canadian Fairbanks-Morse Co., Limited

"Canada's Departmental House for Mechanical Goods"

St. John, Quebec, Montreal, Ottawa, Toronto, Hamilton, Windsor, Winnipeg, Saskatoon, Calgary, Vancouver, Victoria

E. J. WELCH, President and Managing Director
HENRY W. S. DOWNS, Superintendent

EMMONS CROCKER, Vice-President
A. S. MORSE, Secretary and Treasurer

SCREEN PLATES







THE "Union" Bronze (best phosphorized cast metal) Plates for Sulphite Mills, the "Union" Cast Metal Suction Plates.

We carry a large stock of blanks of the various sizes and can fill all orders promptly.

Old plates reclosed and recut by our process are practically as good as new and give better results than by any other process.

UNION SCREEN PLATE CO. of Canada, Limited

FACTORY: LENNOXVILLE, QUE. OFFICES: Lennoxville, Que. Fitchburg, Mass., U.S.A.

MONEL METAL

NON-CORRODIBLE **STRONG AS STEEL**

HIGHLY RESISTANT TO THE ACTIONS OF

Air, Moisture, Salt, Caustic, Sulphuric Acid, Superheated Steam. Ideally suited for marine fittings, including propellers and turbine blades, superheated steam valves, gasoline stills, steel pickling equipment, chemical equipment, etc.

Castings, Rods, Sheets, Wire, Wire Cloth, Screen, etc.

Exclusive Canadian Distributors

HIRAM WALKER & SONS METAL PRODUCTS

WALKERVILLE, ONTARIO Limited

MONTREAL, P.Q.
C. O. Monat,
164 St. James Street

WINNIPEG, MAN.
Frank E. Filer,
203 Confederation Life Building

VANCOUVER, B.C.
McAndrew Jamieson Eng Co.
103 London Building

THE
WM. KENNEDY & SONS
LIMITED
Owen Sound, Ontario

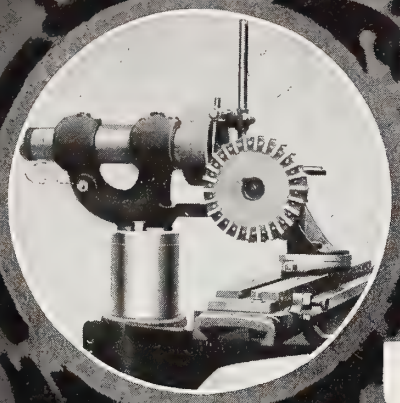
Headquarters for

IRON OR STEEL
PROPELLER WHEELS
SHIP DECK MACHINERY
WATER WHEELS
MILL GEARING
WOOD COGS
STEEL CASTINGS

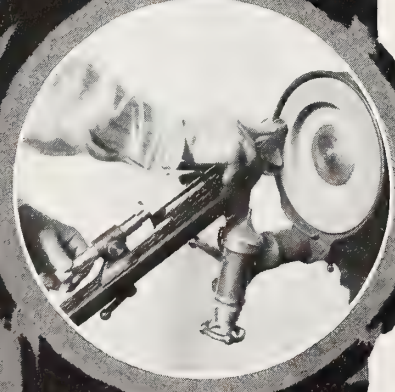
"Best Quality"
Let Us Know Your Requirements

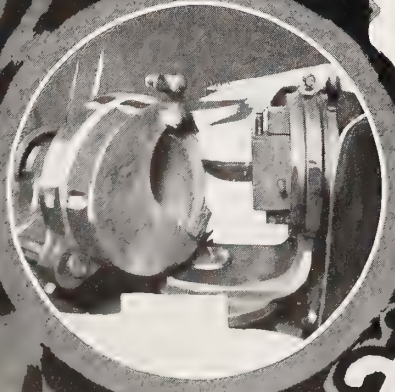
The Wm. Kennedy & Sons, Limited
Owen Sound, Ontario

Tool Room Work









THE selection of grinding wheels for tool room use is a matter of great importance to the shop man. There is a correct wheel for every operation and condition, but in many cases this can only be determined by actual test.

The wheel commonly sold for inserted tooth milling cutters is a 3846-K Alundum—but some conditions call for a J or even an L.

Other types of solid milling cutters require 3846-J or K Alundum vitrified, although 3860-I Alundum vitrified or silicate is a popular wheel in the saucer shapes.

For sharpening twist drills we recommend a 46 grain Alundum, either vitrified or silicate, grades K to M.

For lathe and planer tools of high speed steel, the wheels depend upon the type of machine used. The range of grades include M, N, O and P, and the grain will run from 20 to 80, depending again on whether the operation is automatic or off-hand grinding.

NORTON COMPANY

WORCESTER, MASS.

Electric Furnace Plants

Niagara Falls, N.Y. Chippawa, Ont., Canada

Canadian Agents: The Canadian Fairbanks-Morse Co. Limited, Montreal, Toronto, Ottawa, St. John, N.B., Winnipeg, Calgary, Saskatoon, Vancouver, Victoria; F H. Andrews & Son, Quebec, P.Q.

TRADE NORTON MARK

ALUNDUM

MADE-IN-CANADA

Illuminating Glassware

At Our Factory in Toronto

We Manufacture from the Raw Materials a Line of

Illuminating Glassware

Comprising Over

2,000

Shapes, Sizes, Designs and Colorings, and the Line is Constantly Being Added To.







Factory and Head Office, 388 Carlaw Avenue, Toronto, Canada

ALWAYS INSIST ON HAVING CANADIAN MADE

ILLUMINATING GLASSWARE

Jefferson Make

We solicit enquiries for glass shapes for Industrial Purposes

JEFFERSON GLASS COMPANY, LIMITED

Factory and Head Office:

388 CARLAW AVENUE, TORONTO, CANADA

Down-Town Showroom: 164 Bay Street

MONTREAL—285 Beaver Hall Hill
L. V. WEBBER, Manager

VANCOUVER—510 Hastings Street

WINNIPEG—272 Main Street
W. W. ROBINSON, Agent



Grit and Endurance

Unit for unit, and size for size, the National Truck will compare to advantage in design, construction and price with any Truck on the market.

NATIONAL TRUCKS

ARE BUILT IN CANADA

Put the National side by side any other Truck and choose---that is our challenge to you.

Heavy, rigorous, straining hauls that would soon play out the ordinary truck, are easily discharged by National Trucks as part of their day's work.

The reason is that National Trucks are built especially to endure the hardships of everyday haulage and to meet the climatic road conditions of Canada, being built by Canadians in a Canadian plant.

Right in your own locality you will find scores of concerns who have chosen National Trucks, because their haulage problems insisted upon a Truck that has a record of dependable performance in Canada.

There are six National models----a size to suit your requirements

NATIONAL STEEL CAR COMPANY, LIMITED

HAMILTON, CANADA

WILLIAM HAMILTON CO., LTD.

Hydraulic Turbines, Saw Mill and Pulp Mill Machinery, Iron Castings, Steel Plate Work

PETERBORO ——— ONTARIO

HIGHWAY AND RAILWAY BRIDGES

STRUCTURAL STEEL AND STEEL PLATE WORK



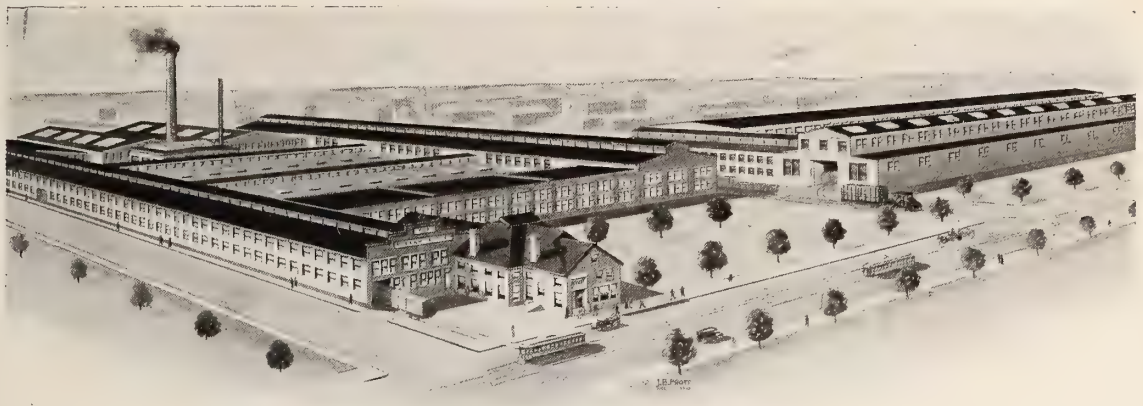
BUILDINGS TANKS TOWERS

MacKINNON STEEL CO. LIMITED, Sherbrooke, Que.

Montreal Office, 404 New Birks Building

Everything in Sheet Metal

Is made in our complete Canadian plant at Oshawa



We make a specialty of

Sheet Metal Stampings

Our equipment for this class of work is unexcelled in Canada. We are continually at work on large contracts for automobile body stampings, tanks, etc. We invite inquiries from any manufacturer who is in the market for this class of metal stamping.

PEDLAR'S "PERFECT" PORTABLE STEEL BUILDINGS

Consider the economy and convenience of providing for expansion by utilizing quickly-erected steel buildings that come to you in inter-locking standard sections with all windows, doors, etc., ready to place in position. Pedlar's "Perfect" Portable Steel Buildings can be supplied in any size or shape desired. Let us quote on your requirements.

PEDLAR'S Saino ALL METAL FIRE DOOR

The automatic fire-stop that reduces insurance rates. This door is made from two cross-laid sheets of 22 gauge corrugated iron with a lining of asbestos between. It cannot burn. It will not transmit heat. Expansion joints permit expansion and contraction along straight lines without warping. Protect your buildings by installing Pedlar's "Saino" Fire Doors.

PEDLAR'S FERRO-DOVETAIL PLATES

For a great many industries there is a decided need for roofing material that resists the action of acids. The best roof for this purpose is the acid-proof roof made from concrete with Pedlar's Ferro-Dovetail Plates as reinforcing. These plates are made of sheet steel formed into a series of dovetail-shaped corrugations. When concreted above, and plastered beneath, these plates give a roof that has no calculable limit of durability.

If you are interested in anything in sheet metal write us for information. We cheerfully and promptly attend to all inquiries.

The Pedlar People Limited

Established 1861

Executive Office and Factories: Oshawa, Ont.

Branches: Montreal, Quebec, Ottawa, Toronto, Winnipeg, Vancouver

STEEL PLATE CONSTRUCTION

We Design and Build

FOR

Oil Refineries
Oil Distributing Stations
Pulp and Paper Mills
Sugar Refineries
Packing Houses
Soap Works
Chemical Works
Asphalt Plants
Cyanide Installations
Varnish Works

Filter Tanks
Air Receivers
Hydro Pneumatic Tanks
Hot Water Tanks
Blow-off Tanks
Steam Jacketed Tanks
Water Towers
Smoke Stacks
Bins and Hoppers

Heavy and Light Steel Plate Work
erected anywhere

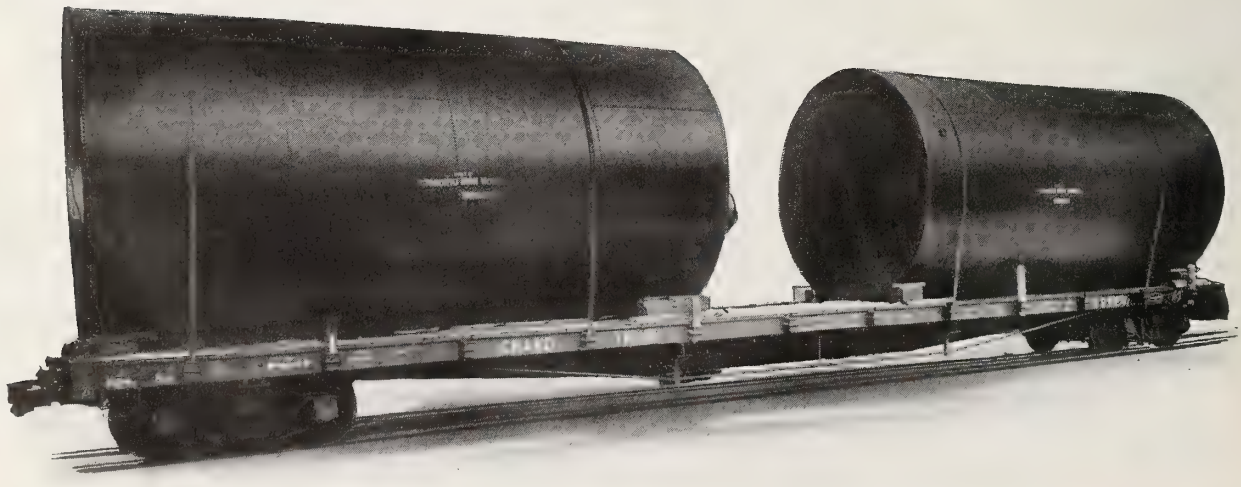
WE INVITE YOUR INQUIRY

THE
TORONTO IRON WORKS
LIMITED

HEAD OFFICE:
ROYAL BANK BLDG.

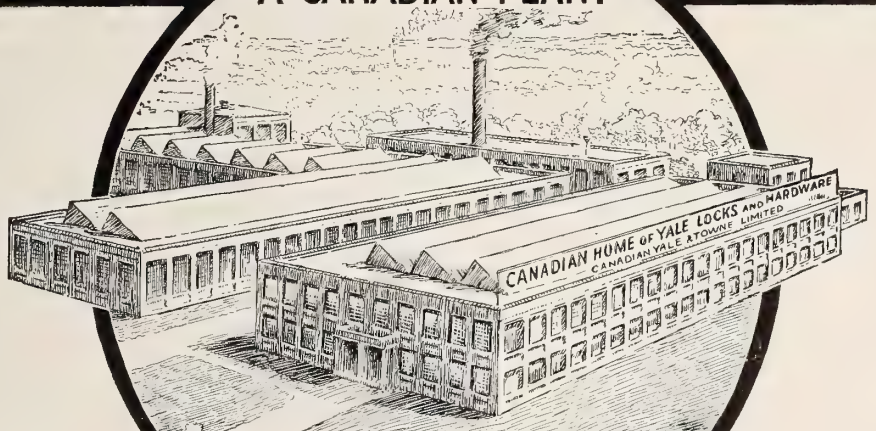
TORONTO

WORKS:
CHERRY STREET

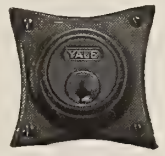


TRADE **YALE** MARK

A CANADIAN PLANT



ST. CATHARINES WORKS
CANADIAN YALE & TOWNE LIMITED





Yale Builders' Hardware Dedham Design

"Yale" Means Inbuilt Quality

The Yale trade-mark on a padlock, night latch, door closer or piece of builders' hardware is a guarantee to you of the careful selection of materials, advanced designing and expert workmanship that means inbuilt quality of the finished product.

You can depend upon the reliability of a Yale padlock. It is a powerfully built, compact locking mechanism that will guard your property through every attack.

Yale Cylinder Night Latches, of perfected security will make doubtfully secure doors a positive barrier to all intrusion.

For the dignity, quiet and health of properly controlled doors, Yale Door Closers are ideally fitted to give the service you require, with a minimum of maintenance cost.

The safety of Yale protection is combined with artistic Yale designing in every piece of Yale Builders' Hardware. For the tiniest cottage to the greatest of public building work, there is the proper Yale design and style.

There is only one way to be sure you are getting Yale quality. You must see the Yale trade-mark on the product you buy. It's on ALL genuine Yale products.

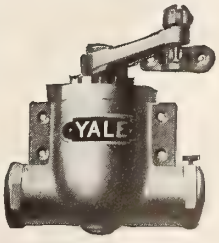
Canadian Made Yale Products For Sale Throughout the Dominion.

Canadian Yale & Towne Limited

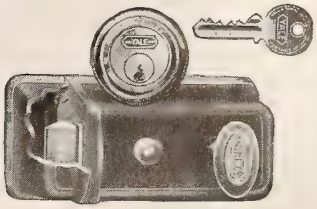
ST. CATHARINES - - ONTARIO



Yale Padlock



Yale Door Closer



Yale Cylinder Night Latch



Dividends *from* Daylight

DAYLIGHT and fresh air cost nothing, but pay big dividends in increased output and better production. These free aids to effieiency are provided in ample measure by Truscon Steel Windows. Moreover, they afford thorough protection against fire and the elements.

Truscon Steel Windows represent the highest quality in design, construction, workmanship and hardware. They are characterized by their trim, clean-cut lines and flat surfaces, adding to the attractive appearance of the building. Because of standardized construction and quantity production, their cost is exceedingly moderate.

When Truscon Steel Windows are specified there will be no delay or waiting for windows, as the Trussed Concrete Steel Company maintain the most efficient and best equipped factory in Canada for the rapid and satisfactory handling of all Steel Window orders. Truscon Steel Windows have world-wide distribution—are favorably known from London to Shanghai. In fact, "wherever buildings are built"—and where they are built the BEST—there you will find Truscon Building Products. Write us—and learn why.

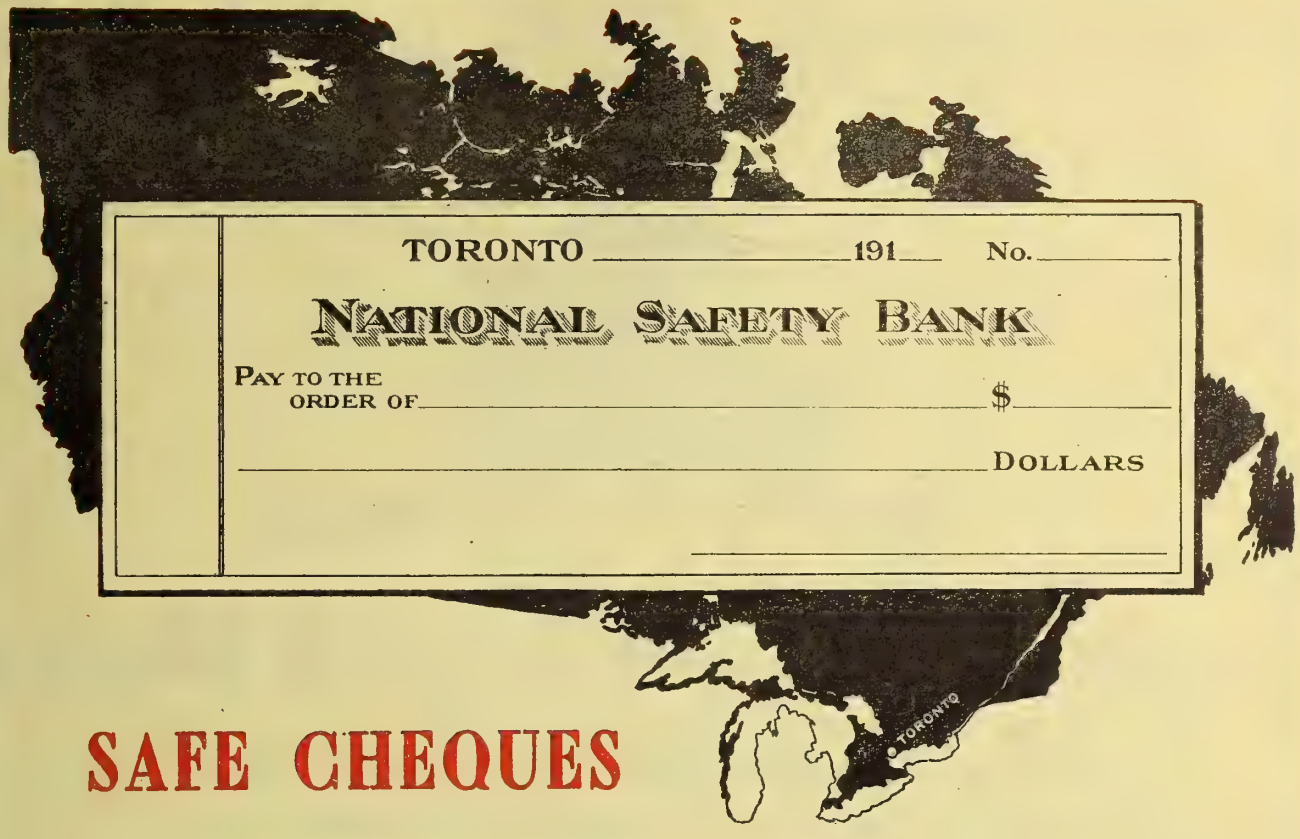
Copy of our handsome Truscon Steel Window Book mailed free on request.

TRUSCON STEEL WINDOWS

Trussed Concrete Steel Company
of Canada, Limited Walkerville, Ontario
Montreal Toronto Winnipeg Calgary Vancouver
Warehouses: Toronto, Winnipeg and Calgary
Distributing Agents Everywhere



Watt & Blackwell, Architects McCormick Mfg. Co., Ltd., London, Ont. Frost & Winchester, Contractors.



SAFE CHEQUES

Both in Canada and in the United States nine-tenths of the business transactions are made by cheque.

It is highly important to surround these instruments with every safeguard to prevent their fraudulent alteration.

Because NATIONAL SAFETY PAPER affords complete protection for the amount, payee, date and endorsements by exposing instantly any attempted chemical or mechanical erasure, it is the form of protection adopted by the largest Canadian banks and by many other business corporations.

When you order cheques specify NATIONAL SAFETY PAPER. It is made in Canada by—

GEORGE LA MONTE & SON, LTD.

319 CARLAW AVENUE - TORONTO, ONT.

MADE IN CANADA

NATIONAL SAFETY PAPER

NATIONAL SAFETY PAPER

Take any sheet of NATIONAL SAFETY PAPER. Write upon it with pen and ink. Note what an easy, smooth writing surface it has.

Yet as you write you are making an indelible record—indelible in the sense that any attempted erasure whether made by knife, acids, alkalis or other bleaching agents, will produce a conspicuous spot or stain in the paper, rendering an attempted fraud instantly detectable.

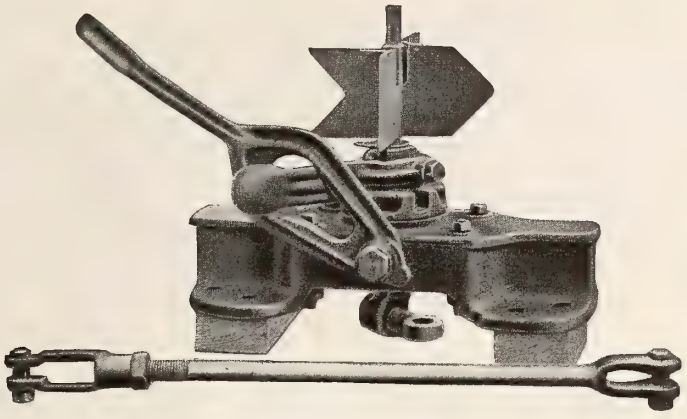
The safety-chemical properties of NATIONAL SAFETY PAPER are permanent and are not affected by atmospheric or other conditions which often render so-called "safety tints" valueless.

For use upon cheques, drafts, notes, trade acceptances, or other negotiable documents, specify NATIONAL SAFETY PAPER to your printer or lithographer.

GEO. LA MONTE & SON, LTD.

319 CARLAW AVE., - TORONTO, ONT.

RAMAPO Automatic Safety Switch Stands



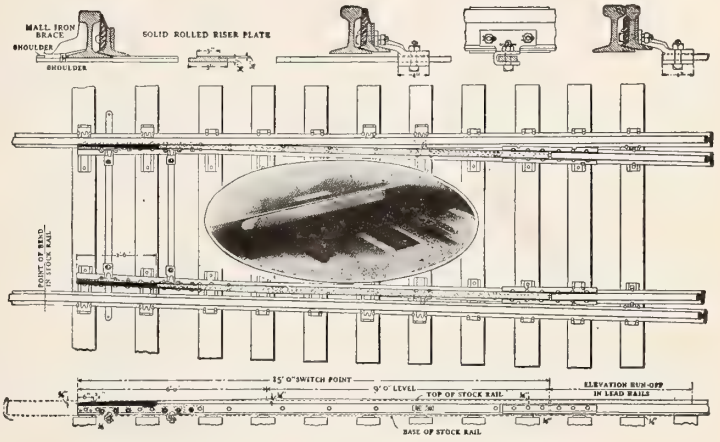
No. 20 Switch Stand

Railroads should use Ramapo Manganese Pointed Switch Style No. 12

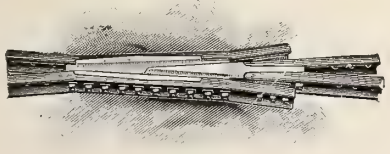
RAMAPO

Manganese Frog, Style No. 1

This Reinforced Manganese Frog will in Hard Service outwear all rail frog Four to Six Times.



RAMAPO MANGANESE POINTED SWITCH.- STYLE No. 12



This is the RAMAPO MANGANESE POINTED SWITCH which will outwear SIX TO TEN ordinary all rail switch points. Try it somewhere in the hardest place you know of.

CANADIAN RAMAPO IRON WORKS LIMITED

NIAGARA FALLS, CANADA

STELLITE

Proper Procedure + STELLITE = Production and Economy

One of Toronto's new industries was presented by us with a Tool-Holder Bit of No. 3 ***STELLITE*** to try out on Cast Iron.

They made tests with the best brands of High Speed Steel as against ***STELLITE*** and found that they were able to run at double the speed and feed by using ***STELLITE.***

AS A MATTER OF FACT A TOOL BIT OF 3/8 inch square ***STELLITE*** HAS TURNED OFF 35,000 TIMES ITS OWN WEIGHT OF CAST IRON IN TEN DAYS.

As a consequence of their own tests they laid out their transmission to accommodate ***STELLITE*** and are now getting a much larger production than they had estimated.

We visited them recently and warned the Superintendent to save his shop-ends of ***STELLITE*** as they were worth $2.00 per pound to his firm.

This was like getting money from home as he had already decided to use ***STELLITE*** without this added incentive.

Ask for Demonstration

Deloro Smelting & Refining Co.
Limited

H.O. and WORKS: DELORO, ONT.

Toronto:
200 King St. W.

Montreal:
315 Craig St. W.

J·L·JONES
ENGRAVING CO.
LIMITED
133 RICHMOND ST. WEST
TORONTO

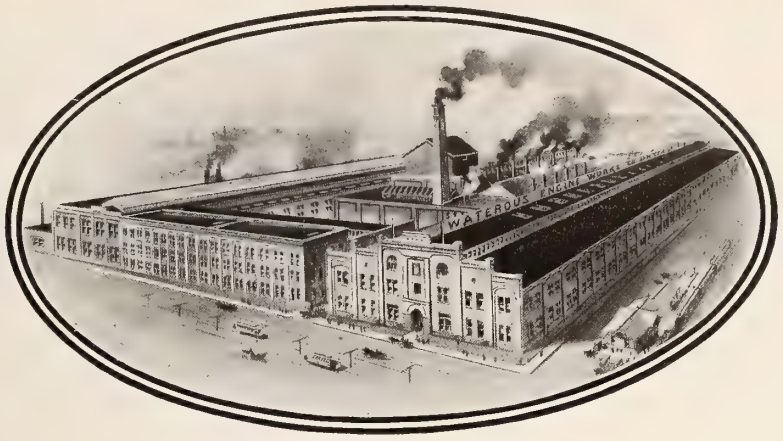
DESIGNERS AND ILLUSTRATORS

WOOD AND PHOTO ENGRAVERS

ENGRAVING DESIGNING PRINTING
LIMITED

PHONE: ADELAIDE 3661

"NIGHT PHONES" PARK 2035 " " 1425



1844 1919

WATEROUS PRODUCTS

Boilers, Engines, Saw Mill and Pulp Preparing Material
Elevators and Conveyors, Road Rollers, Power Plant Equipment
Fire-Fighting Apparatus, Heavy Marine Boilers, Heavy Castings

Write for Catalogues

STEEL PLATE WORK

GET A WATEROUS TANK, THEN YOU ARE SURE

We should like to give an estimate on your rough sketch

Steel Retorts, Pressure Tanks, Steel Reservoirs
Storage Bins, Air Tanks, Washing Tanks
Gas Tanks, Settling Tanks

MOLSONS BANK BLDG., VANCOUVER WINNIPEG, MAN.

Waterous

BRANTFORD, ONTARIO, CANADA

The "Famous Five" Files

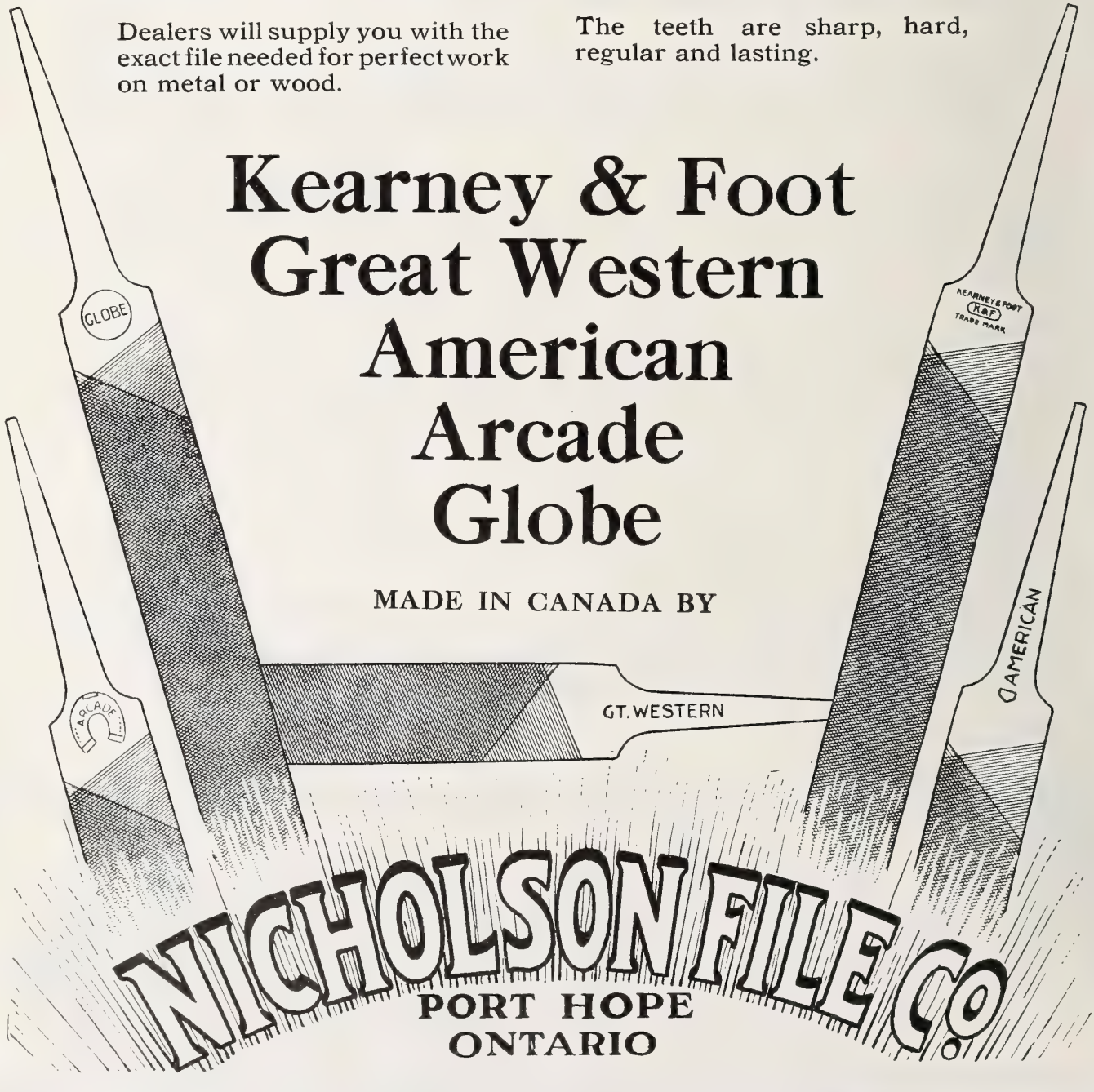
Dependable, Efficient, Enduring
The Standard of Quality in Files for More Than Half a Century

Whatever grade or shape of file your work requires, you'll get the best results when you specify "Famous Five."

Dealers will supply you with the exact file needed for perfect work on metal or wood.

"Famous Five" files are made of high grade carbon steel, scientifically heat treated, accurately ground and cut.

The teeth are sharp, hard, regular and lasting.



Kearney & Foot
Great Western
American
Arcade
Globe

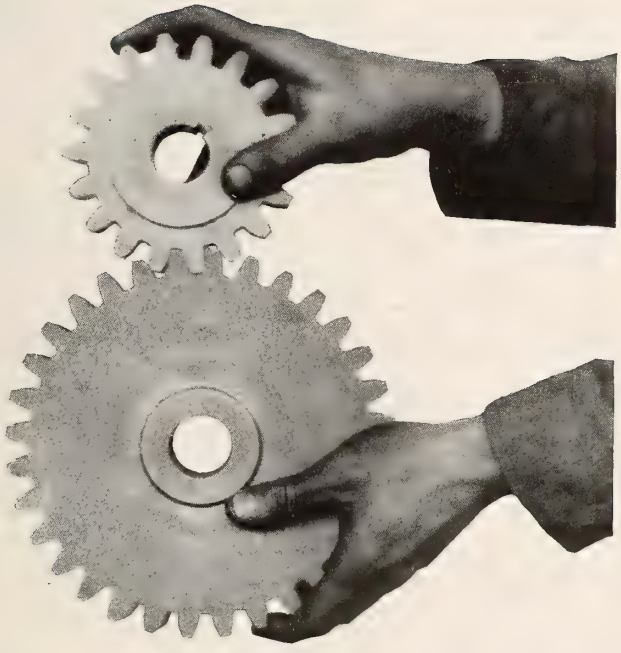
MADE IN CANADA BY

NICHOLSON FILE CO.

PORT HOPE
ONTARIO

Good Cut Gears





Wire or Phone for Quotations

Hamilton Gear Company, Limited

Van Horne Street, TORONTO

BANFIELD

SHEET METAL STAMPINGS
PRESSED STEEL PARTS

Banfield

A Service Worth While

Metals stamped, drawn or pressed in all sizes and shapes with exceptional promptness and dependability.

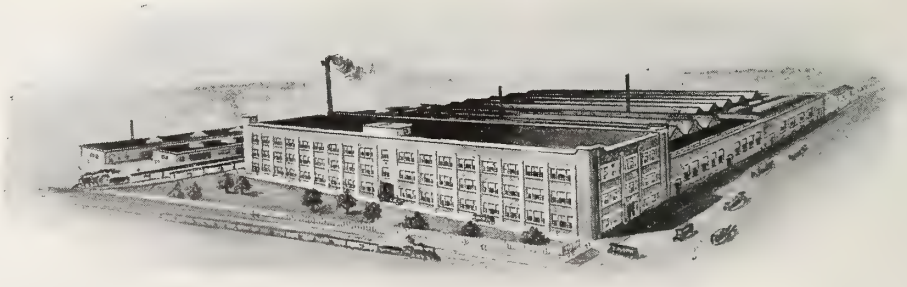
We also manufacture

Lighting Fixtures

Stamped and Spun Brass Goods

Screw Machine Parts

Let us estimate on your requirements. Send for latest catalogs.



W. H. Banfield & Sons, Limited

Head Office and Works: 370-386 Pape Ave.

TORONTO

Showrooms: 80 King St. W.

Bristol **JOHN LYSAGHT, LIMITED** Newport

SHEET STEEL

We are again on the market with our well-known brands
of guaranteed quality

GALVANIZED SHEETS

"QUEEN'S 

HEAD"—Still unequalled for work and wear

"FLEUR 

DE LIS"—Second only to "Queen's Head"

BLACK SHEETS

"SOUTHERN CROSS"—Dead flat, soft, smooth finish

"GLOBE" 

—Close annealed, soft, flat and free from scale

AUTOMOBILE, ELECTRICAL, BLUE PLANISHED
and other special grades

A. C. LESLIE & CO., Limited, Canadian Sales Agents

TIN TERNE and BLACK PLATE
HOT and COLD ROLLED STRIP STEEL

Agents for

Weirton Steel Co., Weirton, West Va.

PIG IRON—"NIAGARA" Foundry, "NICO" Low Phosphorus,
Electric Smelted Canadian

FERRO SILICON—"SHAWINIGAN" 50% and 15%

FERRO MANGANESE—"CARLTON" standard English 80%

STEEL in all forms NON FERROUS METALS

A. C. LESLIE & CO., Limited - - Montreal

Nova Scotia Steel & Coal Co.
LIMITED

PLATES

1/8 to 5/8" thick up to 48" wide, weighing up to 1060 lbs. each

Fluid Compressed Steel Forgings

We manufacture Merchant Bars, Rounds, Flats, Squares, Ovals, Half Ovals, Tires, Sleigh Shoes, Plain or Twisted Concrete Bars, Agricultural Sections, Cold Drawn Shafting, Machinery Steel, Angle Bar Fish Plates, Track Spikes and Bolts.

General Sales Office:
WINDSOR HOTEL, MONTREAL

Head Office:
NEW GLASGOW, N.S.

DOMINION
FOUNDRIES AND STEEL
LIMITED



BOOST CANADA

by buying
Made-in-Canada Machinery

Tanning Machinery of all kinds

Fur-Dressers' Machinery

Let me know your wants

W. P. PLANT
HASTINGS - ONTARIO

ELECTRIC STEEL CASTINGS

E S & M BRAND Stands for Quality



High Grade

Steel Castings

of every Description for

Mines, Bridge, Dock Ship and Harbor Construction

Machinery Steel Castings
Solid Cast Steel Rock Crushers

Manganese Steel

Crusher Jaws, Check Plates, Toggles
Ball and Tube Mill Wearing Parts

Wearing parts for Gyratory Crushers Dredger Pins and Bushes, etc., etc.

Alloy Steel Castings, Forging Ingots.

Write for prices and particulars.

The Electric Steel and Metals Company, Limited
WELLAND ONTARIO

COPPER SPELTER LEAD

Tadanac Brand

PRODUCED IN CANADA

BY

The Consolidated Mining and Smelting Co. of Canada, Ltd.

TRAIL, British Columbia

COPPER—Electrolytic Ingot, Bar, Slab and Cake

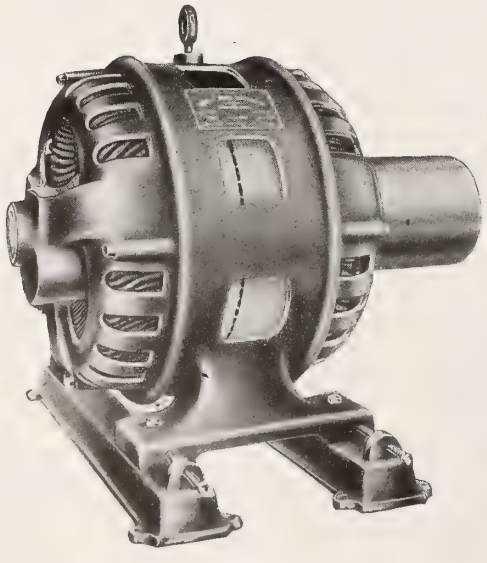
SPELTER—High-Grade Electrolytic Zinc, Brass Special and Prime Western

PIG LEAD—Chemical, Corroding and Common

Sales Office: C.P.R. Bldg., Toronto

Jones & Moore Electric Co. Limited

294-300 Adelaide St. West - TORONTO



ONTARIO REPRESENTATIVES FOR

CENTURY ELECTRIC MOTORS

We make Alternating and D. C. Motors and Generators and

REPAIR ALL KINDS OF ELECTRICAL MACHINERY

MUELLER

REDUCING AND REGULATING VALVES

The right kind of valve is one that is adapted to your particular service. Different services under different conditions necessitate different types of valves. Don't guess. Consult us. When MUELLER valves are installed under our supervision we fully warrant them to control the service for which they are recommended. We make valves for water, steam, gas, air, oil and ammonia.

Victory Loan, 1918, H. Mueller Mfg. Co. Ltd., first in Canada to exceed quota and receive Honor Flag.

H. Mueller Mfg. Co. Ltd.

SARNIA, CANADA

SHOE MACHINERY

FOR EVERY DEPARTMENT

USMC

FROM LASTING TO FINISHING

GOODYEAR WELT AND TURN SYSTEM

REX PULLING OVER SYSTEM

SHOE FINDINGS TACKS, NAILS RIVETS

No. 5 AND HAND METHOD LASTING MACHINES

SHOE REPAIRING MACHINERY

Heel Protector Driving, Heel Compressing, Loading and Attaching Machines, Heel Trimming, Breasting, Scouring and Finishing Machines, Loose Nailing and Slugging Machines, Cementing, Buffing and Skiving Machines, Gem Insole Machines, Eyeletting Machines

United Shoe Machinery Co. of Canada, Limited

MONTREAL

TORONTO KITCHENER QUEBEC

THE DE LAVAL LINE
OF CENTRIFUGALS

De Laval Oil Reclaimers
From exhaust steam condensate.

De Laval All Disc Clarifier
Removes sediment from varnish, Japans, lacquers, demars, printing and lithographing ink, edible and lubricating oils.

De Laval Clarifier and Filter
Removes sediment and flock from varnishes, oils, pharmaceuticals, fruit syrups and extracts.

De Laval Emulsor
Emulses chemicals, medicines and milk components for cream production.

SEND FOR CATALOGUE

THE DE LAVAL COMPANY
Limited

MONTREAL **PETERBORO** WINNIPEG

JARDINE
Canadian Giant Power Hammer



There is nothing like it for rapid and accurate production of light to medium forgings.

No. 25 forges up to 2" stock.
1½ Horse Power drives it.
Weight 825 lbs.
Price $171.00.

No. 50 forges up to 2½" stock.
2½ Horse Power required for heavy work.
Weight 1,750 lbs.
Price $275.50.

A. B. JARDINE & CO., Limited
HESPELER - ONTARIO

The Million-Eyed Watchman



DENNIS
CHAIN LINK FENCE

is built for one purpose—to make your plant safe. Unrest of all kinds is causing firms everywhere to enclose their premises in this mi lion-eyed wall of heavy woven steel, seven feet high and capped with ugly barbed wire.

Supplements the watchfulness of your night and day watchmen, stops thefts of coal, material and goods, makes everyone enter and leave by supervised entrances. A wise investment that earns its cost.

Write for illustrated folders.

Halifax Montreal Ottawa Toronto

THE DENNIS WIRE AND IRON WORKS CO. LIMITED
LONDON CANADA

Hamilton Winnipeg Calgary Vancouver

B. J. COGHLIN CO.
LIMITED

Manufacturers of

Springs

Locomotive, Tender, Passenger, and Freight Car Springs, Street Railway, Wagon and Automobile Springs, etc.
Springs of all kinds from the smallest to the largest.

Track Tools

Crowbars, Clawbars, Lining Bars, Tamping Bars, Rail and Tie Tongs, Rail Forks, Rail Hooks, Track Wrenches, Track Chisels, Track Mauls, Spiking Hammers, Track Gauges, Rail Benders, Levels, Sighting Boards, Concrete Tamps, Concrete Stripping Bars, Telegraph Digging Bars, etc.

Railway Supplies

Rail Braces, Tie Plates, Anti-Rail Creepers, Tie Rods, Guy Anchors, Guy Rods, Locomotive Sanders, Light Forgings and Press Work.

Merchants in Spring Steel Bars and Wire.

OFFICE AND WORKS

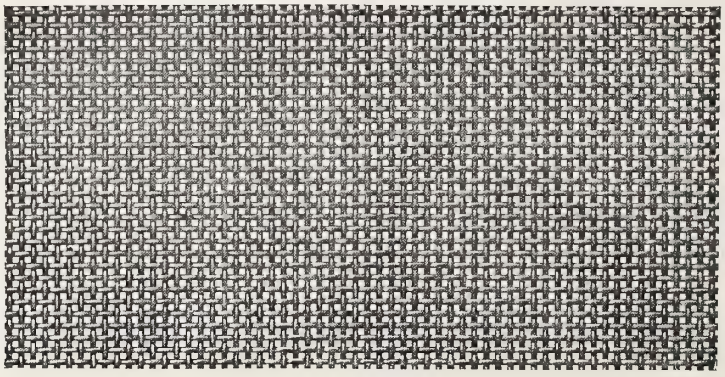
ONTARIO STREET EAST - DARLING AND DAVIDSON STREETS

MONTREAL

THE B. GREENING WIRE CO. LIMITED

MANUFACTURERS OF

WIRE CLOTH WIRE ROPE
PERFORATED METALS



Hamilton, Ont. **Montreal, Que.**

Bond Hangers



How Much Does a Hot Bearing Cost?

How much in lost output and lost wages? For the cost of repairs is only a small item. Any way you figure, a burnt bearing is expensive.

Bond Hangers cut this danger to a minimum. They are designed with a ring oiling device that insures positive lubrication, yet does not waste oil. The reservoir, once filled, requires no special attention for six months at least. The universal adjustment easily corrects any misalignment in the shaft line—so that the bearing wear is very light.

Buy Bond Hangers next time. And get our catalogue on Power Appliances now, for reference.

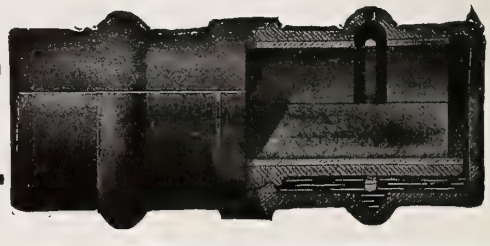
BOND ENGINEERING WORKS, LIMITED

Sole Makers

BOND—DOUBLE-SURE—TRANSMISSION

Toronto - - - Ontario

Ring Oiling





Butterfield

TWIST DRILLS GEAR AND MILLING CUTTERS

For the Manufacture of Peace-Time Products

Quality

It goes without saying that during the period of reconstruction, when manufacturers in all lines will be adapting their plants to peace-time production, competition will be unusually keen. This means that production economies must be diligently sought for. And in this connection the use of the best grade of cutting tools will be of good service. Butterfield Carbon and High-Speed Twist Drills, Gear and Milling Cutters, Side Mills and End Mills, with straight or spiral flutes, and plain or nicked teeth will give you accuracy, fast work and long service—the three essentials of tool efficiency.

If you haven't got a Butterfield Catalogue handy, write for a copy, you'll find it useful—sent immediately on request.

Butterfield & Company, Inc.

ROCK ISLAND, QUE.

TORONTO OFFICE: 220 KING STREET WEST

ELECTRO METALS
Limited
Welland - Canada

Manufacturers of

Electrolytic Ferro Silicon
15% and up

Electrolytic Silico Manganese

Carbon Electrodes
For use in Electric Furnaces
All sizes

Works and Head Office:
WELLAND - CANADA

WHEN PRODUCTION COSTS ARE MOUNTING

COMPETITION knows no favorites. The very life of your industry depends on keeping down production costs. When these soar high, one good place to look for a solution is in your power plant. Study the conditions under which your machinery works.

Rigid mechanical efficiency is only maintained by careful, systematic, ***correct*** lubrication. Select your lubricants with the same scrupulous care with which you choose your machinery; be sure they are the ***proper*** lubricants as well as the best; remember that poor lubricants are expensive at any price.

Imperial Lubricants are a full line, scientifically formulated for all types and parts of machines. Among them is a correct lubricant for each requirement They are made in Canada, of uniform high quality, thoroughly dependable, always available and recommended by experts everywhere.

Imperial Lubricants

For Manufacturing, Mining and Milling

CYLINDER OILS

Imperial Capitol Cylinder Oil
Imperial Beaver Cylinder Oil
Imperial Cylinder Oil
Imperial Shield Cylinder Oil
Imperial Ebony Cylinder Oil
Imperial Acme Cylinder Oil
Imperial Disc Cylinder Oil
Imperial Dominion Cylinder Oil

ENGINE OILS

Imperial Atlantic Red Engine Oil
Imperial Bayonne Engine Oil
Imperial Standard Gas Engine Oil
Imperial Kearsarge Engine Oil
Imperial Renown Engine and Dynamo Oil
Imperial Solar Red Engine Oil
Imperial Junior Red Engine Oil
Imperial Eldorado Engine Oil

Imperial Lubrication Engineers are glad to give you, without charge, the benefit of their knowledge and experience. They will be pleased to co-operate with your own mechanical engineer in making investigations and recommendations for the correct lubrication of your plant.

You should do everything possible to keep your mechanical operation costs down to the lowest figure. Do not hesitate to call Imperial Lubrication Engineers for consultation. Write us at our Home Office, 56 Church Street, Toronto

IMPERIAL

Lubricants

IMPERIAL OIL LIMITED

Power · Heat · Light · Lubrication

BRANCHES IN ALL CITIES



Canadian Carbide

Made in Canada

SOLD THE WORLD OVER

Second to None in

QUALITY, GAS YIELD AND PACKAGE

Works:
St. Catharines, Ont.
Shawinigan Falls
Que.

MANUFACTURED BY

Canada Carbide Company, Limited

MONTREAL - CANADA

Patterns of All Kinds



Castings of Iron and Brass

Offices and Works: Commercial St., Levis, P.Q., Canada

LAUZON ENGINEERING LIMITED, LEVIS, P.Q., CANADA (Opposite Quebec)

Builders of Land and Marine Engines and Boilers.
BRASS AND IRON FOUNDERS.

MECHANICAL REPAIRS OF ALL KINDS.
ENGINEERS AND CONTRACTORS.

Head Office and Plant: LEVIS, P.Q., CANADA

Building of Marine Boilers and Engines; also Installation of same on board ship our specialty.

Our shops formerly known as The Carrier-Laine Shops are at present the best equipped in the Province of Quebec for this class of work. Our Shipping facilities are unexcelled. We have a Deep-Water Wharf adjacent to our plant, and our yard sidings are connected with three railways—Canadian Government Railways, the Grand Trunk Railway, and the Quebec Central Railway. We make patterns of all kinds, and Castings of Iron and Brass.

Dependable and Efficient Power Equipment

Land

Horizontal and Vertical Steam Engines

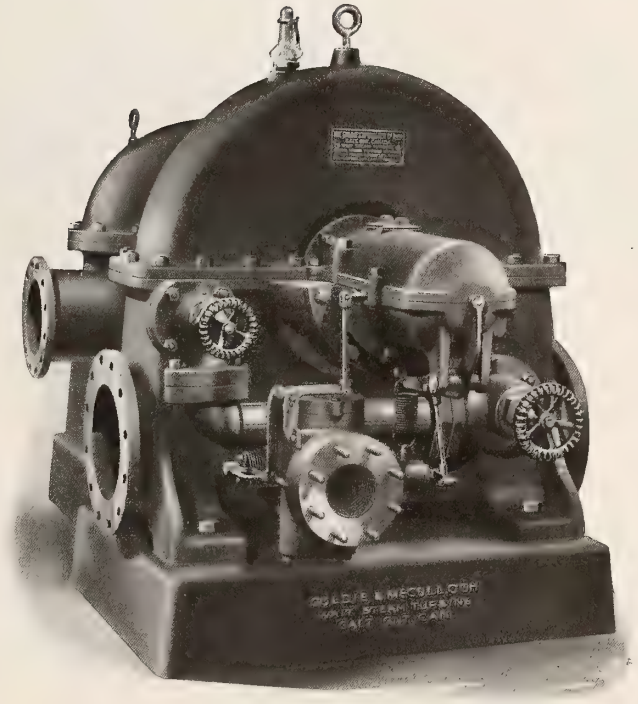
Steam Turbines

Return Tubular and Water Tube Boilers

Heaters

Centrifugal and Reciprocating Pumps and Condensers

Transmission Appliances



Marine

Compound and Triple Expansion Marine Engines

Ships' Lighting Sets

Vertical Bilge and Ballast and Boiler Feed Pumps

"Contraflo" Condensers Heaters Filter and Drain Tanks

Morison's Radial Evaporators

Ships' Side Lights etc.

Illustration shows a Goldie & McCulloch "Wait" Steam Turbine direct connected to centrifugal pump.

We also build SAFES, VAULTS AND VAULT DOORS, Deposit Boxes, etc. G. & McC. Co. Safes have never failed to preserve their contents in all of Canada's great fires for the last forty years.

Any of our catalogues and the advice of our Engineering Department are yours for the asking.

THE GOLDIE & McCULLOCH CO., Limited

Head Office and Works: GALT, ONTARIO, CANADA

TORONTO OFFICE: Suite 1101-2 Bank of Hamilton Bldg.

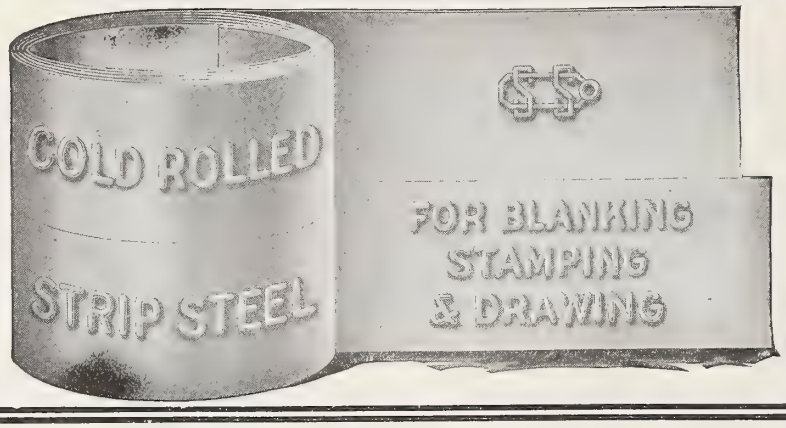
WESTERN BRANCH: 248 McDermott Ave. Winnipeg, Man.

QUEBEC AGENTS: Ross & Greig 400 St. James St., Montreal, Que.

BRITISH COLUMBIA AGENTS: Robt. Hamilton & Co. Vancouver, B.C.

B.C. Safe Agent: C. L. FORD, 569 Richards St. Vancouver, B.C.

Maritime Safe Agent: E. L. STAILING, 16 Roy Bldg., Barrington St. Halifax, N.S.



FINISHED BRIGHT
FOR
ELECTRO PLATING
DEEP DRAWING QUALITY
ACCURATE GAUGE AND WIDTH
WE SOLICIT YOUR ENQUIRIES

MANUFACTURED BY
STANLEY STEEL CO., LTD.
Hamilton, Canada


McKINNON INDUSTRIES ST CATHARINES ONTARIO CANADA

Are you, ***Mr. Manufacturer,*** satisfied with the **Quality** and **Delivery** of your Malleable Iron Castings?

Another satisfied customer writes us:

"Your service and material has been satisfactory for 1918 and we are very well pleased with both. You have at all times been able to give us the very best of castings and your service has been admirable.

We are only too glad to tell you this and hope that your other customers are as well satisfied as we are."

MAY WE EXPECT AN ENQUIRY FROM YOU?

McKINNON INDUSTRIES, LIMITED

St. Catharines, Ontario, Canada

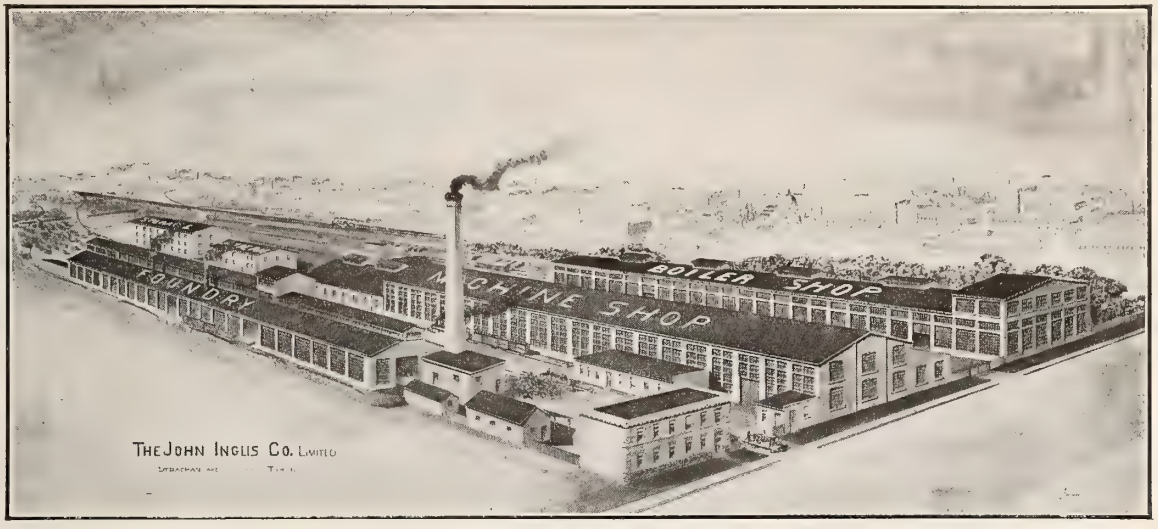
"CRANES MADE IN CANADA"



Electric Traveling Cranes

HAND POWER TRAVELING CRANES
ELECTRIC HOISTS, AIR HOISTS, FOUNDRY EQUIPMENT

Northern Crane Works, Limited - - - - Walkerville, Ontario



Plant of the John Inglis Co., Limited

ENGINES BOILERS AND TANKS

of All Kinds for Any Service

Send us your enquiries

THE JOHN INGLIS COMPANY, LIMITED

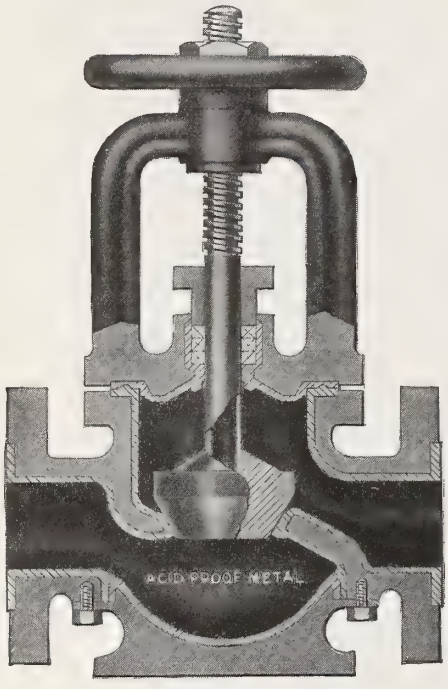
Engineers and Boilermakers

14 STRACHAN AVENUE - TORONTO, CANADA

Representatives in Eastern Canada—JAS. W. PYKE & CO., Limited, 232 St. James Street, Montreal

Ottawa Representative—J. W. ANDERSON, 7 Bank Street Chambers

Acid Resisting Pump Valves



We wish to call your careful attention to our line of Acid Resisting Pumps, Valves and Fittings, they are absolutely perfect in detail. In price comparison with Acid Resisting Bronze Valves, etc., they make an enormous saving in your initial cost.

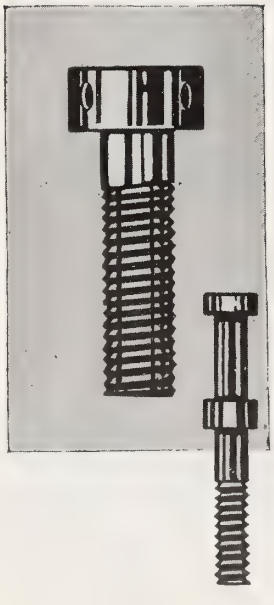
For lining Acid Tanks, Agitators, and Sulphite or Sulphate Vats, Hoyt's Sheet Metal will give far better service than the ordinary Chemical Sheet Lead in the market. If you will write us stating conditions under which your Sheet Lead is operating, we would be pleased to go into the matter fully and will convince you of the economy of Hoyt's Sheet Metal.

Write for Catalogue

HOYT METAL COMPANY

FACTORIES:
London, England; Toronto, Canada; St. Louis, Mo.
New York, N.Y.

SHEET METAL STAMPINGS and AUTOMATIC SCREW MACHINE PRODUCTS



Government precision calls for work that is absolutely perfect in each detail. We have supplied that work, and our experts and modern machinery used in so doing now stand at our customers' disposal running with the same accuracy.

Years of experience have taught us how to discriminate in selecting our material so that the work produced is of the finest quality and workmanship, while our prices remain reasonable and popular.

We will be pleased to give you our estimate on your next order.

CARON BROTHERS

CARON BUILDING
233-239 Bleury St. - - MONTREAL

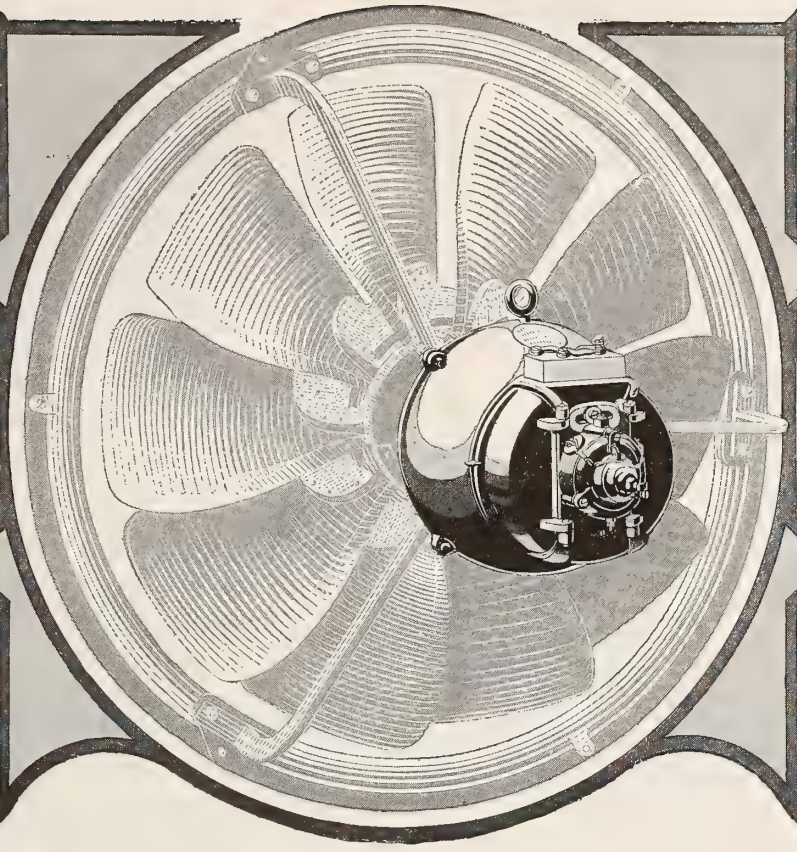
Hotels Need Them

Big Kitchens Should Have Them

Theatres and Halls Must Have Them

Mills and Factories Can't Do Without Them

Hospitals Demand Them



In Laboratories They are Necessary

Restaurants Swear By Them

In Laundries They are Indispensable

Big Offices Should be Equipped

In Dormitories They are Essential

Industrial Fatigue

Elaborate scientific tests have demonstrated that individual efficiency, both mental and physical, is highest and most enduring when the surrounding air is at a temperature of less than 70 deg. F.

The air in great shops and factories, as well as in offices, is often raised above the highest temperature at which the most efficient work can be done.

Nothing will aid ventilation and increase efficiency in poorly ventilated buildings so much as C.G.E. exhaust fans. Why not investigate? A card or phone message to our nearest sales branch is all that is necessary.

Canadian General Electric Company
LIMITED

HEAD OFFICE: TORONTO

BRANCH OFFICES: MONTREAL, QUEBEC, HALIFAX, SYDNEY, ST. JOHN, OTTAWA, HAMILTON, LONDON, COBALT, SOUTH PORCUPINE, WINNIPEG, CALGARY, EDMONTON, NELSON, VANCOUVER AND VICTORIA.

ATKINS
METAL CUTTING SAWS



A Hack Saw Blade That Won't Break!

IT'S the "AAA" Non-Breakable. Ever try them? Send us a trial order. We make a complete line of STERLING QUALITY Saws, Tools, Machine Knives and Mill Specialties.

Ask for literature descriptive of the saws or tools in which you are interested.

"A Perfect Saw for Every Purpose"

E. C. ATKINS & CO., Inc.
"The Sterling Quality Saw People"
Established 1857

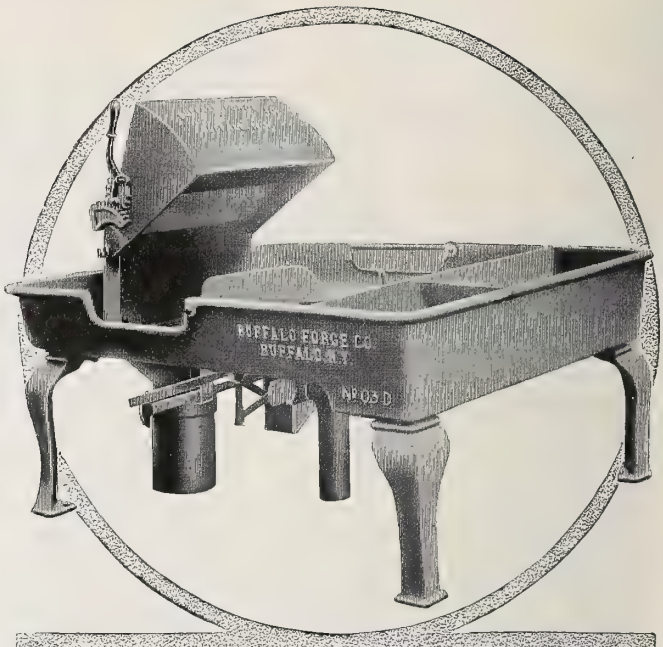
Canadian Factory,
Hamilton, Ontario

Branch House
Vancouver, B. C.

Home Office and Factory,
Indianapolis, Ind.

E.C.ATKINS & CO. HAMILTON





HEAVY DUTY FORGES

Canadian Forges are designed for the particular work they are required to do

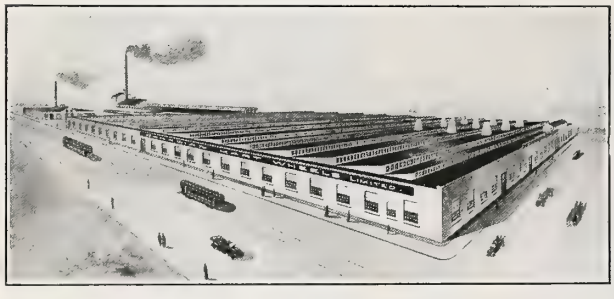
Our Catalogs 100 and 108-14 describe our full line. Write for a copy.

CANADIAN BLOWER & FORGE CO., LTD.
KITCHENER, ONT.

Canadian Hart Wheels

CUT FASTER LAST LONGER

Than any other wheels on the market



OUR NEW MODERN PLANT

Tell us the service you want performed and we will supply you with an abrasive wheel that will save you time, money and worry.

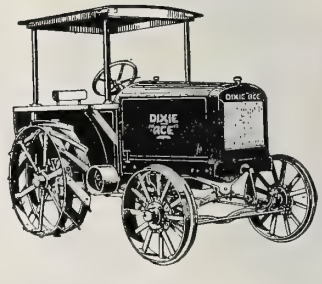
Send for one of our catalogues and tell us your troubles. We do the rest.

CANADIAN HART WHEELS LIMITED
HAMILTON - - ONTARIO

GILSON

"Goes Like Sixty"

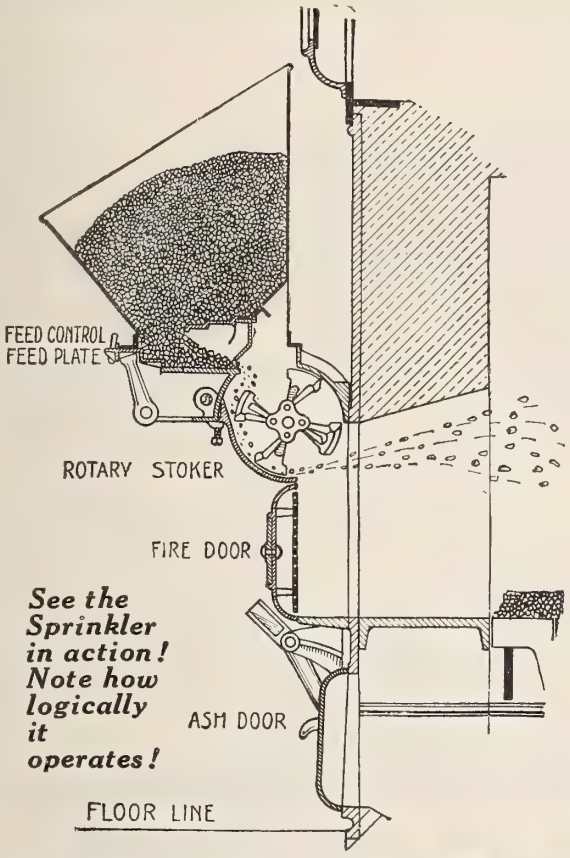
Tractors
Engines
Silo Fillers
Silos
Threshers



GILSON PRODUCTS INSURE SAFETY, SERVICE AND SATISFACTION.

Write for Catalogs

Gilson Mfg. Co. Ltd.
240 York Street
GUELPH CANADA



See the Sprinkler in action! Note how logically it operates!

THE GALT FOUNDRY CO., Limited

OFFICE AND WORKS:

Galt - - Ontario

PRODUCT

THE GALT SPRINKLER STOKER

For Smokeless and Economical Combustion and Utilizing Low-Grade Fuels

The Galt Sprinkler Stoker is a real Coal Saver, and can be installed on Power and Heating Boilers, Annealing Furnaces, and in all classes of Installations.

Will burn any kind of fuel from anthracite dust up to 3" lump.

ADVANTAGES

They give complete and smokeless combustion.
" feed the fuel to the furnace with the doors shut.
" do not require skilled Firemen.
" maintain a brilliantly hot fire.
" are simple, strong and beautifully made.

The Galt Sprinkler Stoker automatically feeds and uniformly spreads the fuel to the furnace in a light, continuous stream, and gives a perfectly level fire 3 to 4 inches thick.

Send for one of our Combustion Engineers to look over your plant—no obligation.

Galt Stokers Burn Cheap Fuel and Less of it

ASK FOR 10 FACTS AND 10 LETTERS ABOUT THE GALT STOKER



WRITE FOR CATALOGUE AND DETAILED



Manufacturers, PREVENT Big Fires by "nipping them in the bud," with

"IMPERIAL" FIRE EXTINGUISHERS

(Every "IMPERIAL" bears the Underwriters' label)

If your factory burns, how will you fill orders during the long period of rebuilding? How will you hold your customers? How will you hold your employees? Your ***Insurance*** won't do all this!

Every Insurance Company makes an allowance on the premium rate for the installation of APPROVED Extinguishers.

Your Insurance Agent can tell the exact amount an "IMPERIAL" will save you.

"Put the Fire out before it Puts you out"

Send for Booklet and Prices

The Booth-Coulter Copper & Brass Co. Limited

115 Sumach Street • TORONTO, Ont.

WIRE
WIRE NAILS
MATTRESS WIRE
FINE TINNED, COPPERED OR GALVANIZED WIRE
BALE TIES
FENCE AND POULTRY NETTING STAPLES
BARREL HOOPS

If you want that bale or barrel held tight, write us

The Laidlaw Bale-Tie Co., Ltd.

Wire Manufacturers

Hamilton • Canada

A. T. DIGGINS, Stair Bldg., Toronto, Ont.
H. E. O. BULL, Montreal, Que.
HARRY F. MOULDEN, Winnipeg, Man.
MARK BRYAN, 24 Aldgate, London, E.C.

ESTABLISHED 1850

DID YOU EVER NOTICE

that jarring, grinding noise in your machine shop caused by the metal gears?

Wouldn't you like to stop that noise? You can do it by using

NEW PROCESS GEARS
RAWHIDE PINIONS

They last indefinitely too

Ask us about it?

R. GARDNER & SON, LIMITED

Nazareth, Brennan and Dalhousie Streets

MONTREAL



ALGOMA

STRUCTURAL STEEL – MERCHANT BARS

Blooms, Billets and Slabs
Concrete Reinforcing Bars
Shafting – Pulleys – Hangers
Iron, Brass, Bronze and Steel Castings

Sulphate of Ammonia Nitre Cake
Sulphuric Acid

STEEL RAILS – Open Hearth Quality
Splice Bars Steel Tie Plates
Light Rails – 12 lbs. to 45 lbs.

PIG IRON

Basic Foundry Bessemer Spiegel

ALGOMA STEEL CORPORATION
LIMITED

SAULT STE. MARIE - - - - ONTARIO

"Put it on Wheels"



Truck No. 820

When you buy a Machine for your Factory, the chief consideration is that it be strong enough to meet your maximum requirement.

This same point should be your chief consideration when buying Trucks.

To enable buyers to purchase Trucks intelligently, we state in our Catalog the load capacity of each Truck, ample allowance having been made for the abuse Trucks receive.

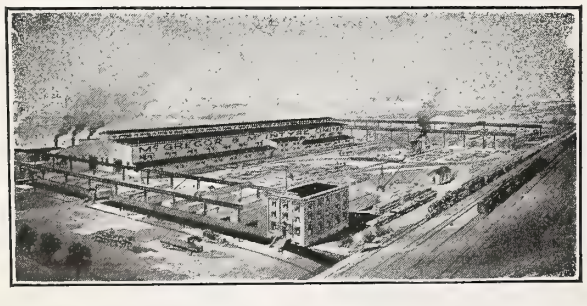
Catalog mailed at your request.

THE W. S. MAHAFFY CO.

Manufacturers of Factory and Warehouse Trucks

COR. GLADSTONE AND TRAFALGAR AVENUES TORONTO, CANADA

STRUCTURAL STEEL
and
BRIDGE BUILDERS



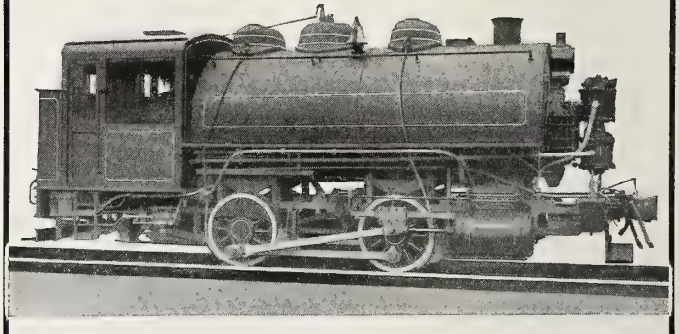
We build and erect all kinds of Structural Steel, Bridges, Roof Trusses, Bank and Office Railings, Stair Work, Elevator Grills, Fire Escapes, etc.

Over 5,000 Tons in Stock of
Beams, Column Sections, Angles, Tees, Plates, Bars, Checkered Floor Plates, etc.

McGregor & McIntyre, Limited

1139 SHAW ST. TORONTO, CAN.

PUT YOUR PROBLEM UP TO US



We are specialists in building locomotives. We build all types and sizes, also all kinds of repair parts for locomotives and tenders.

Our experience puts us in a position to give you expert advice as to what particular type and size of locomotive is best suited to your needs.

Put your locomotive problem up to us.

MONTREAL LOCOMOTIVE WORKS, LIMITED

DOMINION EXPRESS BUILDING MONTREAL, CANADA

CANADIAN FURNACE CO.

LIMITED

PORT COLBORNE, ONT.

Manufacturers of Pig Iron

BRAND "VICTORIA"

"VICTORIA" FOUNDRY IRON

Strong—Soft—Neutral

"VICTORIA" MALLEABLE IRON

Furnished to all Standard Analyses

SOLE SALES AGENTS:

M. A. HANNA & CO.

Cleveland, Ohio

BUFFALO, N.Y. PITTSBURG, PA. DETROIT, MICH

TORONTO, ONT.

Dominion Copper Products Co., Limited

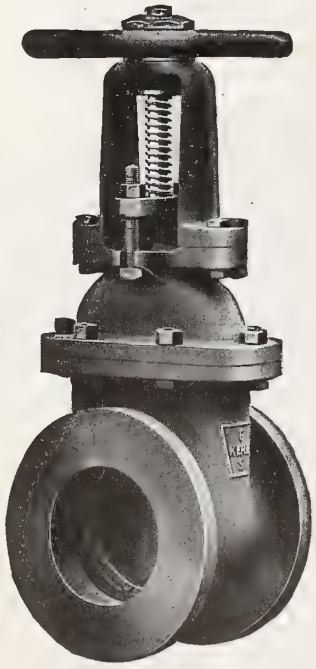
Manufacturers of

Seamless Brass
Bronze and
Copper Tubing

in all commercial sizes and gauges

Office and Works: LACHINE, QUE., CANADA
P.O. Address: MONTREAL, QUE. Cable Address: "DOMINION"

Kerr Iron Body Gate Valves



embody all that is modern in gate valve construction. Strong, compact and pleasing in appearance.

Every valve tested and guaranteed.

THE KERR ENGINE CO., Limited
Valve Manufacturers :: Walkerville, Ontario

BOILERS



STANDARD RETURN TUBULAR BOILER

We manufacture Horizontal Return Tubular, Vertical Tubular and Locomotive Type Boilers, also Smoke Stacks, Breechings, Steel Tanks, Penstock and Steel Plate Work of every description.

Canadian Builders' Keystone Traction Shovel
Model 4

Send us your inquiries

Engineering & Machine Works of Canada, Limited

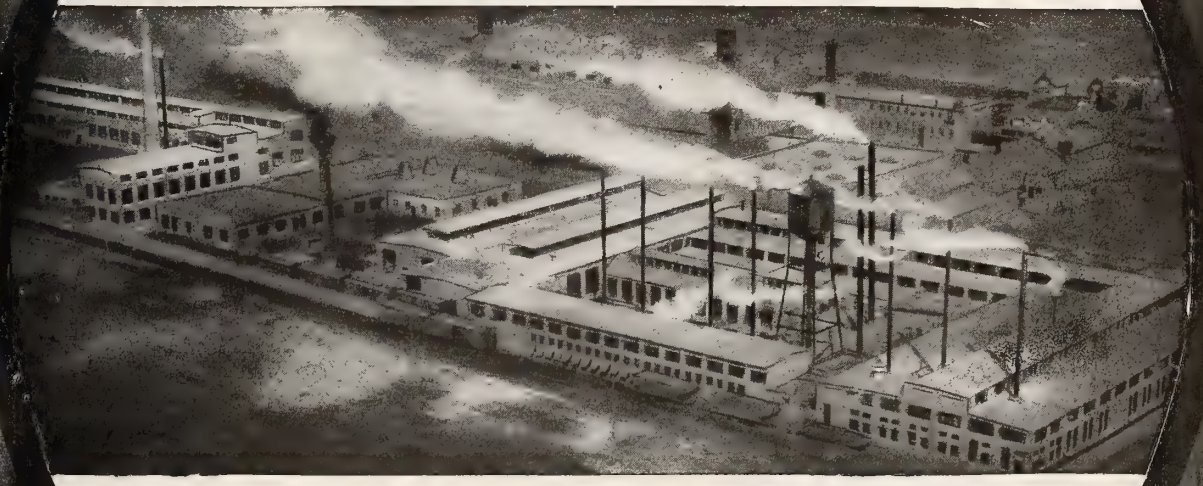
ST. CATHARINES, ONTARIO
Eastern Sales Office: HALL MACHINERY CO., Sherbrooke, Que.



BROWN'S

Beaver Brand Metals

Copper, Brass, Bronze, Canada Silver, and Gilding Metal in sheets, rolls, plates and rods. Naval Bronze, Yellow Metal and Muntz Metal in sheets and rods for shipbuilding requirements. Specify Beaver Brass Rod for drilling and free cutting. Extruded shapes.



Guaranteed Ingot Metals—Yellow, Red and Composition Ingots.
We are Purchasers of Copper Bearing Material.

Link up with Beaver Brand Products—you'll like the quality, price and service.

Brown's Copper & Brass Rolling Mills, Limited

New Toronto, Ont., Can.

COPPER & BRASS
BROWN'S
QUALITY
ROLLING MILLS



XXX GENUINE ARCTIC METAL



IS

The Best Babbitt Manufactured

FOR

Bearings that carry extraordinary heavy loads

SPECIALLY ADAPTED FOR

Marine and Automobile Engines

Always runs cool



Tallman Brass & Metal Limited
HAMILTON, ONT.



Jas. W. Foley & Co.

POTTERS

ST. JOHN - - N.B.



Stoneware, Rockingham Ware, Flower Pots, Stove Linings, Etc., Etc.

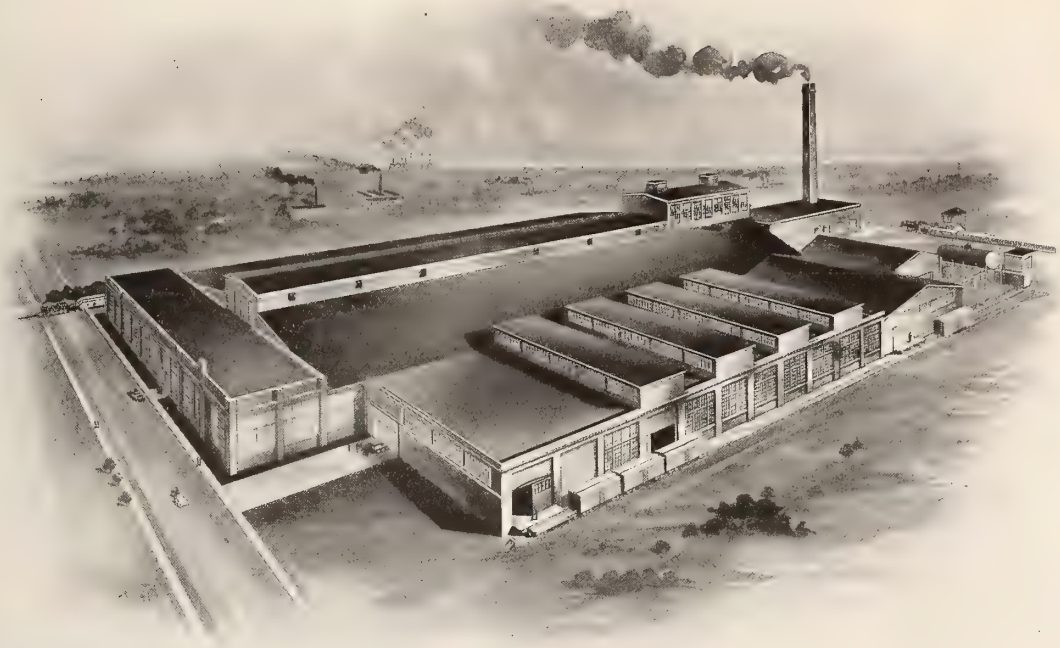
MALLEABLE IRON CASTINGS

HIGH TENSILE STRENGTH

GALT MALLEABLE IRON CO.

LIMITED

GALT ∴ ONTARIO



CANADIAN HEADQUARTERS FOR

Cold Drawn Steel
and
Turned & Polished
SHAFTING

ROUNDS
1/8 in. to 6 in. Dia.

SQUARES
1/4 in. to 2 1/4 in.

HEXAGONS
1/4 in. to 2 1/4 in.

FLATS
up to 1 1/2 x 3 in.

Also: Free Cutting Screw Stock and Finished Keys

The Canadian Drawn Steel Company Limited

HAMILTON - CANADA

Semet Solvay Coke

For Foundry, Furnace and Domestic Use.

Do not take our word for Semet Solvay Coke being the best on the market.

ASK ANYONE WHO HAS USED IT

All inquiries given prompt attention.

R. J. MERCUR & CO., Limited

MONTREAL P.Q.

Weighing Canada's Products Over Toledo Scales

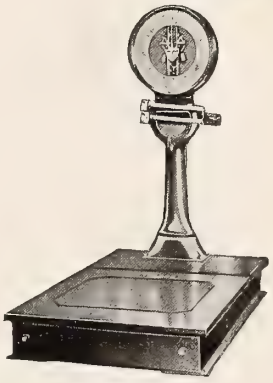


TOLEDO No. 1001
Springless, Automatic
Hanging Scale
Maximum Capacity
150 pounds

TOLEDO SCALES, for the weighing of Canada's products, are built in Canada by Canadian workmen. Eighteen years experience in building automatic gravity scales has enabled us to produce a scale which reduces the time factor in the weighing operation to the minimum, at the same time increasing the accuracy. Because they are speedy, durable, and accurate to the last possible degree, Toledo Scales are saving thousands of dollars annually for many of Canada's great manufacturers.

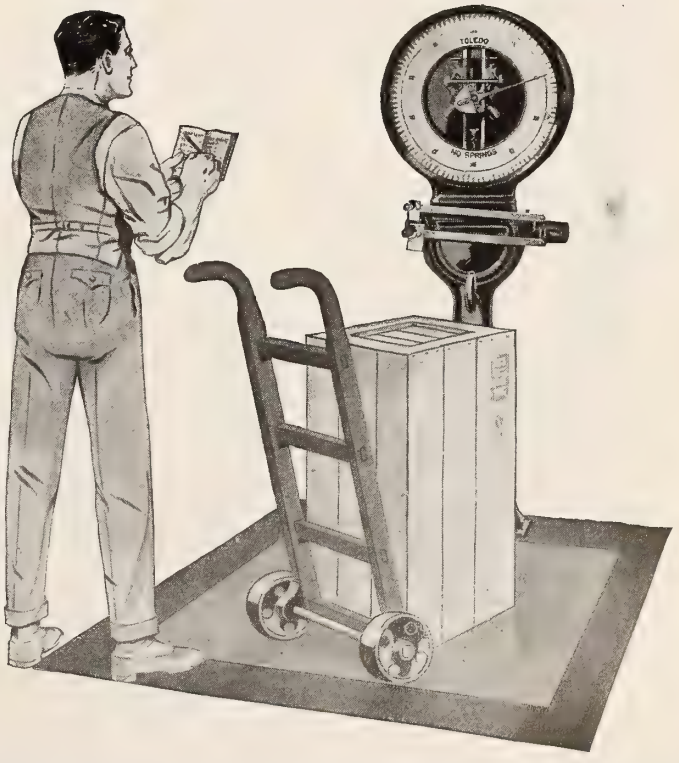


TOLEDO No. 821
Portable Scale
Maximum Capacity
1500 pounds



TOLEDO No. 921
Dormant Scale
Maximum Capacity
3800 pounds

Toledo Scales are built in more than one hundred different styles and sizes, suitable for practically every weighing need. The types shown here are but three out of the great Toledo line. Ranging in capacity from but a few ounces to many tons, there is a Toledo which will meet your weighing requirements, and save time and money for you. Write today for further information.



Toledo Scale Company

Windsor, Ontario

Branch Offices and Service Stations
Throughout the Dominion

GOOD PRINTING

Book-making Complete Catalogues Booklets Periodicals

AT REASONABLE PRICES

Let us tell you something of our equipment
and the "Extra" service we can give you

Note the New Name—

The Ryerson Press

(FORMERLY WILLIAM BRIGGS)
TORONTO



W. C. Macdonald, Reg'd

Incorporated
MONTREAL - CANADA

GILLIES BROS., Limited

Lumber Manufacturers

G

WHITE PINE

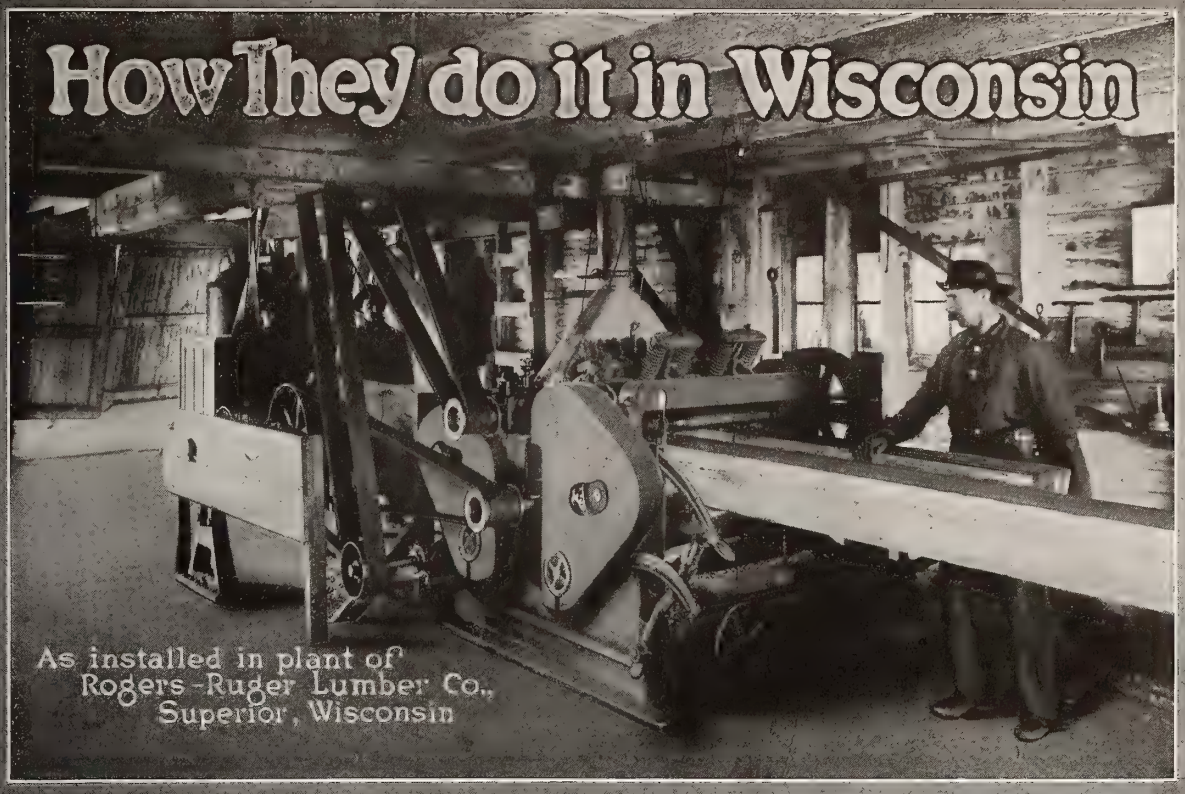
Red Pine - Spruce

GUY E. ROBINSON, Sales Agent
Aeolian Building, 42nd St. W., New York City

Established 1873

Mill and Head Office: BRAESIDE, ONT.

How They do it in Wisconsin



As installed in plant of
Rogers-Ruger Lumber Co.,
Superior, Wisconsin

The Yates No. 177 Double Surfacer

Yates

"The Invariable Choice of The Man Who Knows"

is used extensively by Wisconsin manufacturers in making many well-known wood products, as it is in many of the leading establishments throughout the world.

The reason for its popularity is that the No. 177 always makes good.

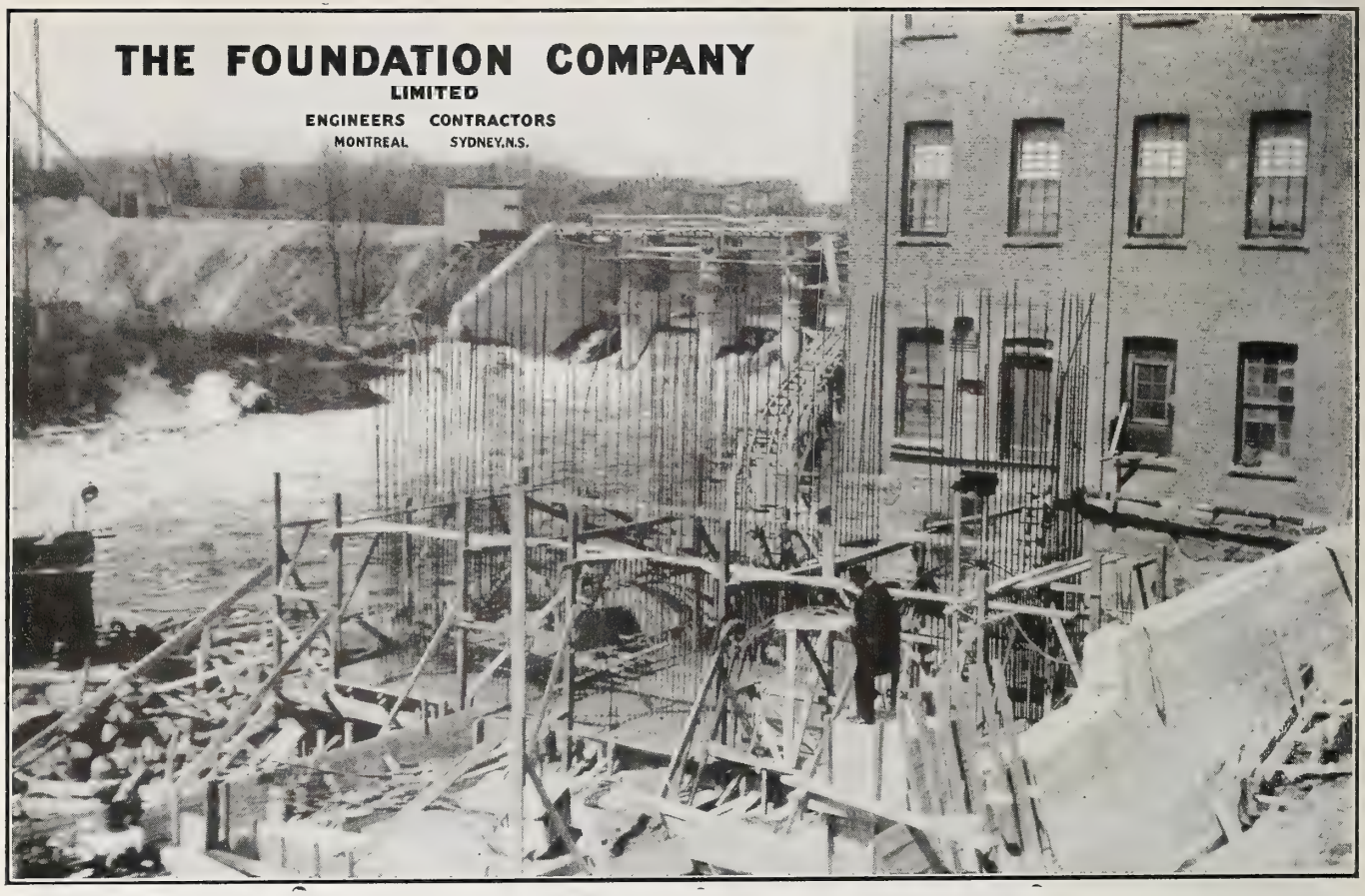
This machine is sturdily constructed for long service and will handle stock from capacity down to a fraction of an inch in thickness with economy and dispatch. Equipped with round heads and Yates improved grinding and jointing devices, the No. 177 will give fine finish at the fastest rates of feed.

Our free, illustrated circular gives detailed information regarding its many features. This will be sent to you on request.

Section showing sturdy construction and improved knife grinding device



P. B. Yates Machine Company Ltd.
HAMILTON, ONT. CANADA
U.S. Plant, Beloit, Wis.



Showing the Power House and a portion of the Dam being built for the Canadian Consolidated Rubber Company at St. Jerome, Quebec—the home of the famous "Fleet Foot" Shoes. We would be pleased to assist you if you are contemplating any such work. Our knowledge, gained of experience, is at your disposal.

The Hamilton Bridge Works Co. Limited

HAMILTON, - ONTARIO

ENGINEERS, MANUFACTURERS and CONTRACTORS

Steel Railway Bridges
Steel Highway Bridges
Steel Buildings
Steel for Ships
Steel Turntables
Steel Trusses and Columns



Capacity 36,000 tons

5,000 tons of Standard Shapes of Structural Material in our yards for immediate shipment.

Enquiries solicited

The above is a building recently erected for the Steel Company of Canada at Hamilton, Ontario

Once used — Always used because Best by Test



Straight Cross



Tee Reducing on run



Straight Tee



Straight Elbow



45° Elbow

Through the installation of Grinnell Automatic Sprinkler Equipments, Steam and Hot Water Heating Systems and Power Piping the General Fire Extinguisher Company is to-day one of the country's largest users of fittings in contract work, and this experience in installation work convinced us of the advisability of developing and manufacturing our own line of fittings.

Quality production soon gave us quantity production. Consequently we are in a position to offer users of quality fittings the same line we ourselves use.

To-day the care and exactitude in manufacturing G. F. E. Fittings has resulted in the type and quality of fittings which we know are equal, if not superior, to any other make in the market.

The raw materials going into these fittings are the best that money can buy, and daily tests, both physical and analytical, are made by our expert chemists to see that the mixture is always uniform. G. F. E. Fittings after casting are rigidly inspected by our own experts, and many which we know would be merchantable are discarded as unworthy of our standard.

In addition to our own needs, we keep on hand a large stock for general sales business and all orders receive prompt and careful attention.

On this page are illustrated a few of the screw type of G. F. E. Fittings.

A trial order will give you a chance to verify our claims for these fittings. Why not find out whether what you are getting is good enough? SPECIFY G. F. E. FITTINGS AND KNOW THAT YOU ARE GETTING THE BEST.

SERVICE SPECIALISTS **CANADIAN** SERVICE SPECIALISTS

GENERAL FIRE EXTINGUISHER CO.
Limited

W. L. HORN, Managing Director

TORONTO, ONT.—2440 Dundas St. West
WINNIPEG, MAN.—508 McCreevy Bldg.
MONTREAL, QUE.—370 Beaumont Ave.
VANCOUVER, B.C.—1140 Hamilton St.

Grinnell Automatic Sprinkler Systems, Steam and Hot Water Heating Installations, Power Piping, Service

DOMINION BRIDGE CO., LIMITED

MONTREAL, P.Q.

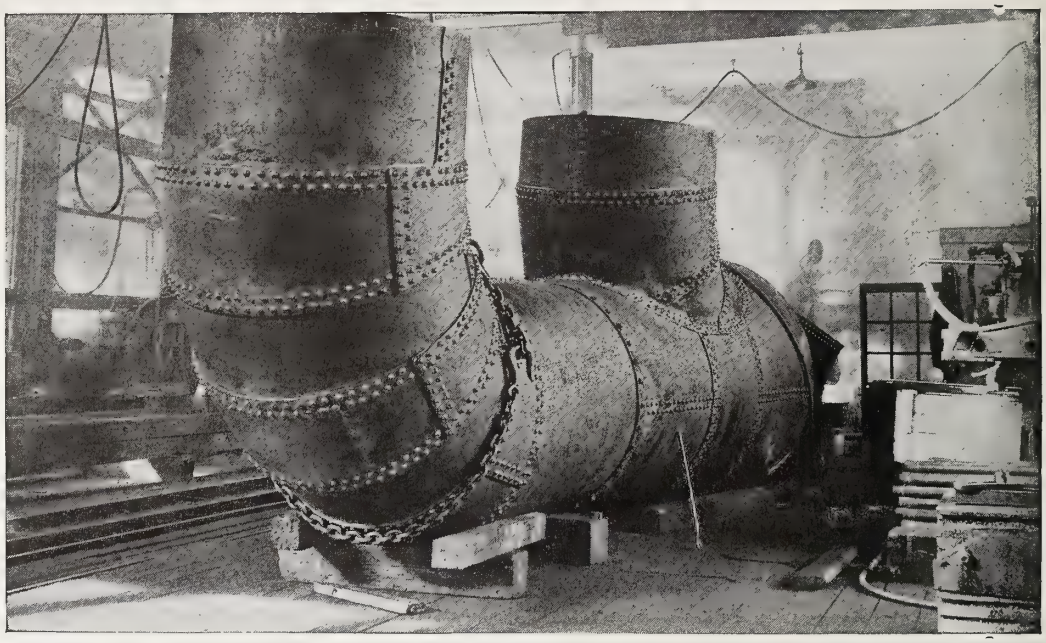
Engineers, Manufacturers and Erectors of

Paper Making Machinery

Steel Structures

Railway and Highway Bridges

Electric and Hand Power Travelling Cranes



Penstocks

Tank and Plate Work

Marine Engines and Boilers

Coal and Ore Handling Machinery

Lift Locks and Gates

Head Office and Works: LACHINE, P.Q., CANADA **P.O. Address: MONTREAL, P.Q.**

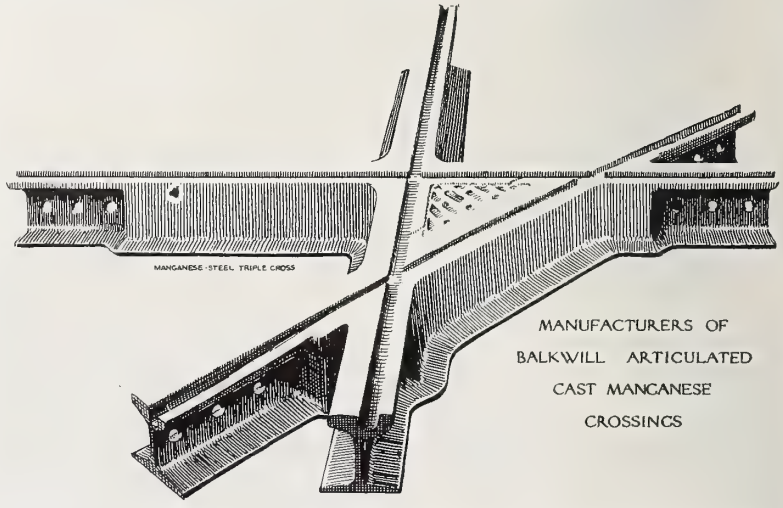
Cable Address: DOMINION **Branch Office and Works: TORONTO, OTTAWA, WINNIPEG**

Sales Offices: MONTREAL, TORONTO, OTTAWA, WINNIPEG, EDMONTON, REGINA, VANCOUVER

LARGE STOCK OF STRUCTURAL MATERIAL AT ALL PLANTS

TRACKWORK

We produce all classes for Steam and Electric Railways, either as parts such as Frogs, Diamonds, Switches, etc. or as complete layouts. These we are prepared to design from your surveys, or we will make surveys and designs under your supervision.



MANUFACTURERS OF BALKWILL ARTICULATED CAST MANGANESE CROSSINGS

CANADIAN STEEL FOUNDRIES LIMITED

Transportation Building, Montreal



Dominion Abrasive Wheel Co. Ltd.





A grinding wheel for every purpose.

EXCELITE for general grinding, tools and tool room work.

CARBOLOX for brass, bronze, chilled and cast iron.

Large stock and prompt delivery. Send for new catalogue.

DOMINION ABRASIVE WHEEL CO., LTD.

Mimico, Ont., Canada

MADE IN
PREMIER
CANADA
GALVANIZED SHEETS

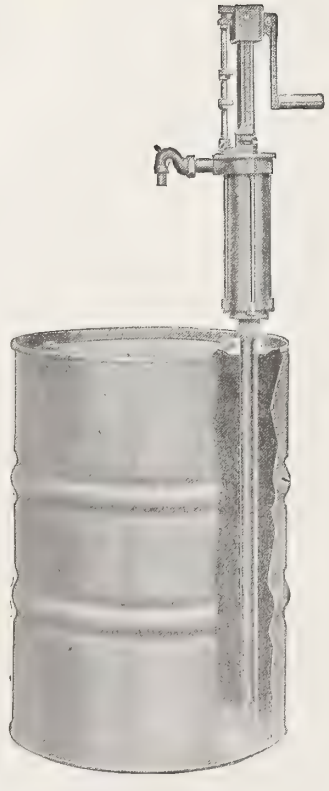
your requirements of Galvanized Sheets. We deal direct with manufacturers.

Pickled and Oiled Sheets

furnished promptly at market prices. We do the work here.

Now is the time to cover for We make the price right.

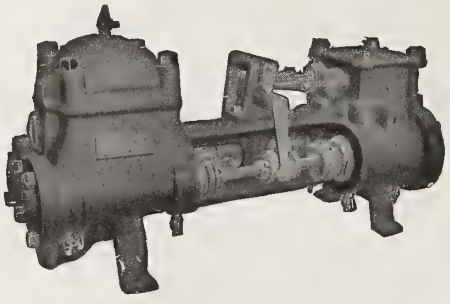
DOMINION SHEET METAL CORPORATION, Limited
HAMILTON, CANADA



DID YOU KNOW

that you could get our Standard Duplex and Centrifugal Pumps FROM STOCK?

Let us care for your next requirements



STEEL BARRELS **HAND OIL PUMPS**
CUT GEARS

THE SMART-TURNER MACHINE CO. LIMITED
Hamilton, Canada

"BEATTY"

Dredges Hoisting Engines Ash Hoists
Clamshell Buckets Steel Derricks
Electric Hoists Anchor Windlasses
Mine Hoists Derrick Irons Cargo Winches



One of many types of Dredges which we build for River and Harbor Improvements. Our Dipper Dredges, Clamshell Dredges and Suction Dredges are found on all the important works throughout Canada.

Write us regarding any plant of this character. Our extended experience in such matters is freely at your service.

M. BEATTY & SONS, LIMITED

WELLAND CANADA

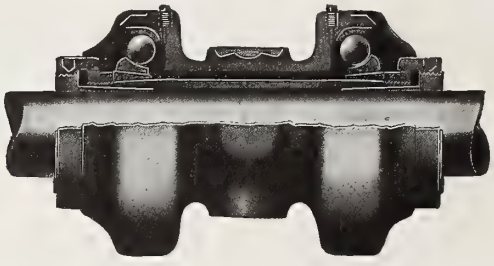
AGENTS:

H. E. Plant, 1790 St. James St., MONTREAL
Harvard Turnbull & Co., TORONTO
Robt. Hamilton & Co., VANCOUVER
Kelly-Powell, Ltd., WINNIPEG
E. Leonard & Sons, ST. JOHN, N.B.

Chapman Ball Bearings

Designed for Transmission

Save 75% Friction



Reduce 95% Lubrication

Let us show you that by substituting Chapman Ball Bearings in the same hangers as you are now using, your loss from Friction may be eliminated to such an extent as to pay for the change in less than two years.

SAFETY
No Friction—No Heat

ECONOMY
Experienced design—Long life

CLEANLINESS
No oil—No drip

SOME USERS :

Goldie & McCulloch Co., Ltd.
Massey-Harris Co., Ltd.
Canadian General Electric, Ltd.
Canadian Allis-Chalmers, Ltd.
Canadian Bridge Co., Ltd.
John Inglis Co., Ltd.
Canadian Pacific Railway
Grand Trunk Railway
Canadian Locomotive Co., Ltd.
Canadian Fairbanks Ltd.
National Steel Car Co., Ltd.
Canadian Car & Foundry Co., Ltd.
Collingwood Shipbuilding Co., Ltd.
Holden, Morgan Co.
Dickson Bridge Works
Eastern Steel Co.
Canadian Billings Spencer
Toronto Laundry Machine Co., Ltd.
Otis-Fensom Elevator Co., Ltd.
Nova Scotia Steel and Coal Co., Ltd.
LondonMachinery Co.

TO HANDLE ANY PRODUCT REQUIRING NUMEROUS OPERATIONS—

Efficiently



A UNIVERSAL ELEVATING TRUCK IS INDISPENSABLE

No time is wasted loading and unloading truck. All material is stacked on platform, and when it is to be moved the truck is backed under the platform, and with the locking button depressed, the handle is pushed down. This raises the truck body and with it the loaded platform, locking it in the raised position. When hauled to the desired position the button is pressed and the handle raised, lowering the platform to the floor. The Truck is then drawn from underneath and is ready to move another platform.

Truck is fitted with specially designed ball-bearings throughout. Load raised or released with one hand and with *handle in any position.* (A valuable feature when handling truck in crowded space.)

The Chapman Double Ball-Bearing Co. of Canada, Limited

339-351 Sorauren Ave. - - - - Toronto, Ontario

Ormsby



"ORMSBY *Best of Them All*"

TAYLOR-FORBES COMPANY, LIMITED

Guelph, May 30, 1918

"We have two Ormsby SWARTWOUT Ventilators in use in our Forge Department, and we have found them entirely satisfactory in every way—in fact, we have probably fifty (50) Ventilators throughout our Plant and the Ormsby is the best of them all."

Yours truly,
JNO. M. TAYLOR,
Pres. and Gen. Manager

N.B.—This company has since bought 3 more.

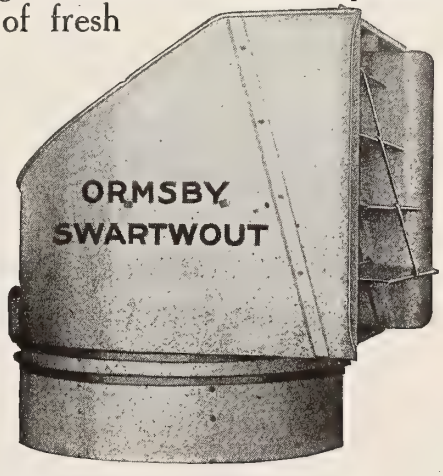
Fresh Air Insures Production

Because fresh air *costs* nothing, don't think it is worth nothing. For lots of fresh air means production maintained and profits insured.

By installing Ormsby "Swartwout" Ventilators you apply the free power of the passing breeze to give a constant flow of fresh air.

You keep workers healthily active—there is no "dead," used air to make them sluggish. Production sheets are proof of the constantly refreshed and revitalized atmosphere made possible by these modern, up-to-date ventilators.

Ormsby "Swartwout" Ventilators cost nothing beyond the purchase price. They are self-cleaning, wind-operated, run on ball-bearings, storm-proof. They quickly pay for themselves no matter on what shop they are installed.



If you're interested in improving working conditions in your plant — and increasing production — write for "The Gospel of Fresh Air" —a 24-page handbook (now in its 4th edition) full of live suggestions, data, diagrams, etc. A copy will be gladly mailed on request.

AGENTS
Maritime Provinces
F. A. Gillis & Co., Halifax

British Columbia
A. T. Chambers, Vancouver

Factories at
PRESTON TORONTO
MONTREAL
WINNIPEG CALGARY
REGINA

A. B. ORMSBY CO., LIMITED - - - TORONTO

Associated with the Metal Shingle & Siding Co., Limited



Ford Motor Co. of Canada, Ltd.
Ford, Ont.

Built by WELLS AND GRAY LIMITED
Engineers and Contractors

WE have built the whole of this plant. We started work in 1910 and have continued without interruption for eight years. Our men are still working on extensions to this plant.

All buildings are permanent, fireproof and modern, reinforced concrete being used almost exclusively.

We have the organization and equipment to handle this work quickly and economically.

WELLS AND GRAY, LIMITED

Engineers and Contractors

Branch Office:
Bank of Commerce Bldg.,
Windsor, Ont.

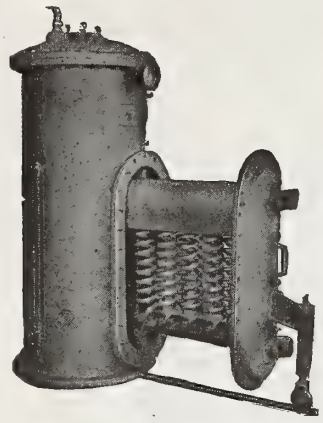
TORONTO, ONT.,
701 Confederation Life Bldg.


STEEL & IRON
PRODUCTS
OF
EVERY DESCRIPTION
Quality
Service
THE
STEEL COMPANY
OF
CANADA
LIMITED
HAMILTON
MONTREAL

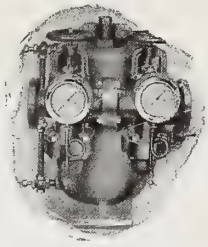
Mason Regulator and Engineering Co.

Limited

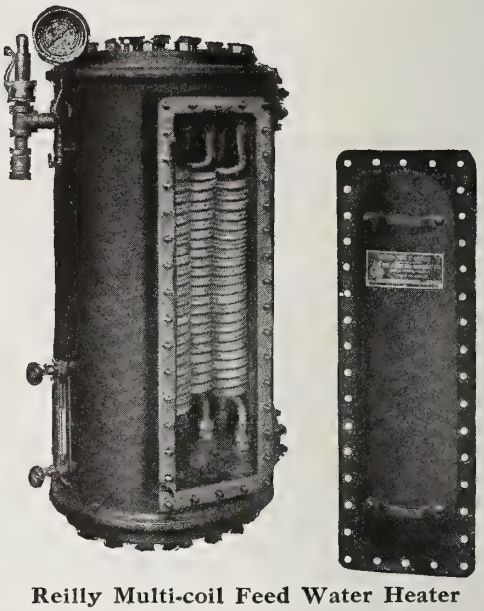
Successors to H. L. Peiler & Company



Reilly Marine Evaporator
Submerged Type



Reilly Multi-screen
Feed Water Filter



Reilly Multi-coil Feed Water Heater

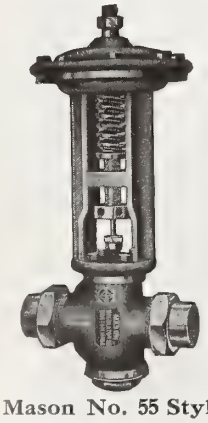
Made in Canada by a Canadian Company



Mason Standard
Reducing Valve

We are prepared to supply the well-known material shown here. Special attention is directed to our Standard Reducing Valves and Pump Pressure Regulators. Reliable, simple and of "Mason" workmanship. "Reilly" material needs no introduction.

We furnish bulletins and full information on request.



Mason No. 55 Style
Pump Pressure
Regulator

Sole Licensees and Distributors for :

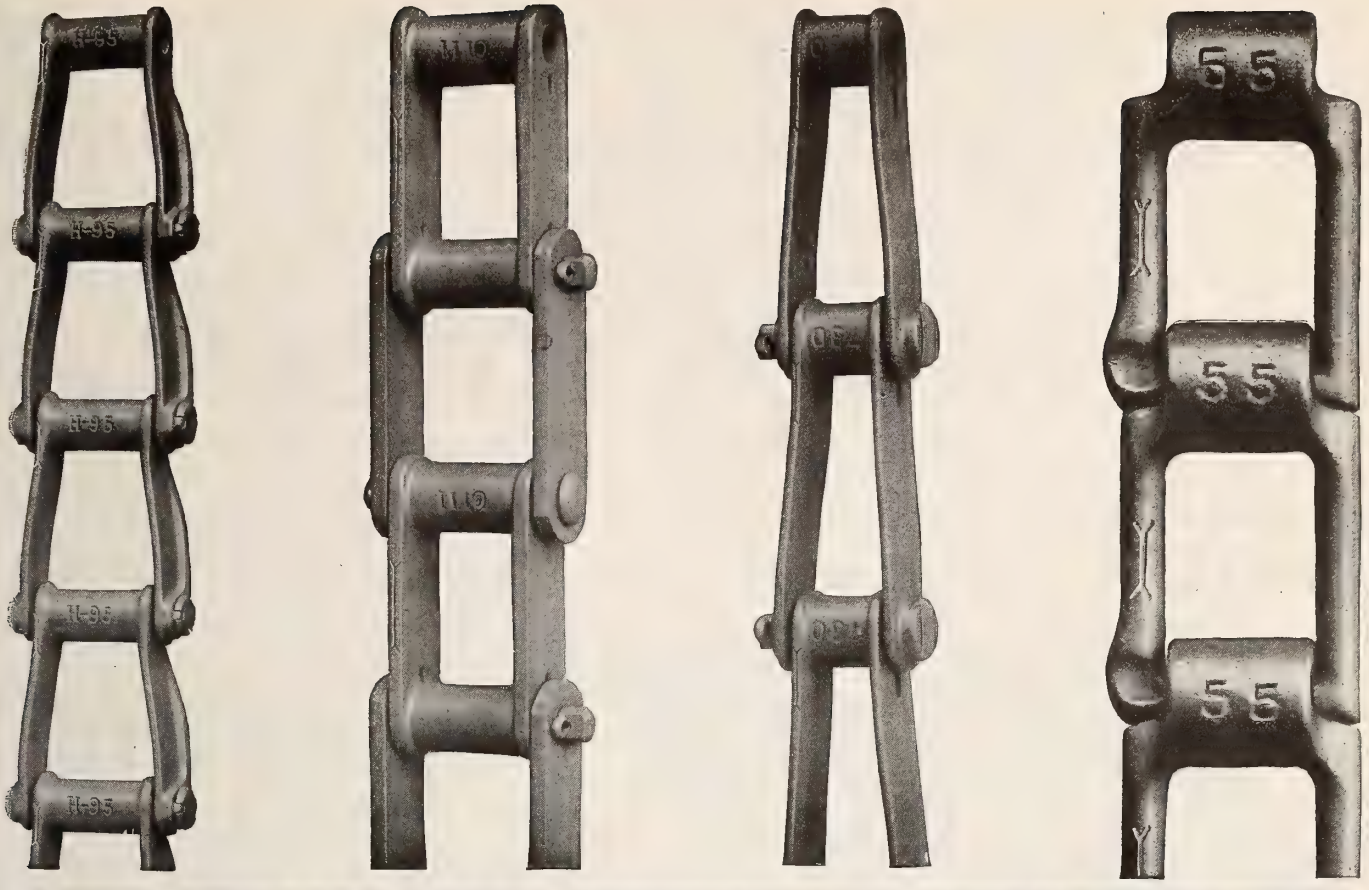
The Mason Regulator Co. (Pressure Regulators)
Griscom-Russell Co. (Heaters and Evaporators)
Nashua Machine Co. (Bundy Traps)
Coppus Engineering and Equipment Co. (Blowers and Centrifugal Boiler Feed Pumps)
The Sims Co. (Storage Heaters)

The Mason Regulator & Engineering Co., Limited

Successors to H. L. PEILER & COMPANY

MONTREAL, Office and Factory, 135 to 153 DAGENAIS ST.

TORONTO REPRESENTATIVE : Arthur S. Leitch Co., 506 Kent Building, Toronto



LINK-BELT
FOR EVERY PURPOSE

Whether your problem is one of power transmission, elevating or conveying, we have a type of Link-Belt especially designed for the purpose.

And when we say "especially designed," we mean it. For our engineers have spent years in the study of the peculiar conditions and requirements which various industries place upon Link-Belt. Each type has been designed not with the thought of how cheaply it can be made, but how perfectly it can serve its purpose. We show a few types of Link-Belt above. Our catalog shows many others. Send for a copy.

CANADIAN LINK-BELT COMPANY, LTD.

265 West Wellington Street., Toronto

Also carried in stock at 1195 St. James Street, Montreal

MADE AND CARRIED IN STOCK IN CANADA

STEEL BARS

ROUNDS, SQUARES, FLATS, ANGLES AND SPECIAL SECTIONS FOR AGRICULTURAL IMPLEMENTS

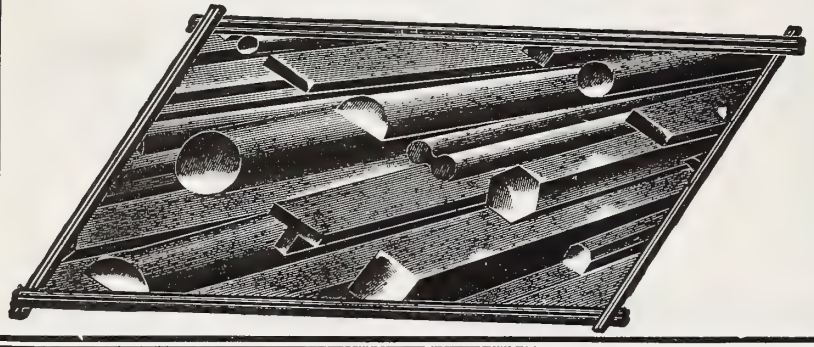
Prompt Shipment from Stock

BURLINGTON STEEL CO., Ltd.

HAMILTON - CANADA

UNION DRAWN STEEL CO., Limited

HAMILTON, ONTARIO



MANUFACTURERS OF

Shafting

Rounds, Flats, Squares and Hexagons

LARGEST STOCK IN CANADA

Get prices before ordering elsewhere.

Castor Oil

Cocoanut Oils

English Degras

We are direct importers of vegetable oils. Can make immediate delivery of Cocoanut and Castor Oils, English Degras and English Linseed Soap.

DOMINION OIL COMPANY
LIMITED
Royal Bank Building
HAMILTON - - ONTARIO

Better Lubrication For Factory Engines

Here is Scientific Refining combined with Scientific Distribution—



Maple Leaf Valve Oil

mixed with the steam and spread in an even, thin *efficient* film in valve and cylinder by the En-ar-co Atomizer.

A guaranteed saving of from twenty-five to fifty per cent in cylinder oil consumption results from the use of Maple Leaf Valve Oil.

That's economical as well as better lubrication. And the Atomizer is FREE. Write to us.

Canadian Oil Companies, Limited

1296 Excelsior Life Bldg., Toronto, Ont. 141A

COTTON FABRICS

FOR THE APPAREL OF CHILDREN, WOMEN AND MEN;

TOWELLINGS, SHEETINGS, PILLOW CASINGS;

BAGS, BAGGINGS AND FABRICS FOR HEAVY USAGE;

FABRICS FOR RUBBER PROCESSES OF MANUFACTURE AND FOR SPECIAL INDUSTRIAL REQUIREMENTS

Dominion Textile Company
LIMITED

112 St. James Street, Montreal, P.Q.

Charles F. Dawson, Limited
Wholesale and Manufacturing Stationers
MONTREAL

BOOKBINDING
PRINTING
RULING

EMBOSSING
ENGRAVING
LITHOGRAPHING

Manufacturers in every branch of the industry
Carry a large stock of every office requisite

WE OFFER

Accurate, intelligent attention. Cumulative experience of half a century.
Prompt careful deliveries. Fair prices. Satisfaction.

On account of the service offered, we number among our friends most of the Governments, Federal and Provincial—Municipalities, Banks, Transportation Companies, Corporations, Professional Firms, Colleges, Schools, etc.

If you have not already done so—why not open a ledger account with us. You will be surprised at the change.

P.S.—Catalogues and advertising literature yours for the asking.

THE HOME OF THE

Canadian Linoleum and Oil Cloth Industry

Made Expressly for the Canadian Climate and Trade



Handled by all Wholesale Dry Goods Jobbers in the Dominion

OUR PRODUCT COMPRISES:

PLAIN and PRINTED LINOLEUMS
BATTLESHIP LINOLEUM
CORK CARPET

TABLE and ENAMELLED OIL CLOTHS
SHELF and CARRIAGE OIL CLOTHS
SANITILE WALL COVERING
WALL BURLAPS

FLOOR and STAIR OIL CLOTHS
PASSAGE CLOTH
FELTOL FLOOR COVERING

THE DOMINION OIL CLOTH CO., LIMITED - MONTREAL



Penmans

The leading Canadian Manufacturers of:

Underwear, Hosiery and Sweaters,
Laundry, Pulp and Papermakers' Felts, Blankets,
Lumbermen's Socks, etc.

—MILLS—

In addition to the Mills at Paris, illustrated, we operate factories at Thorold, Port Dover, Almonte, Brantford, Waterford and London, Ont., and Coaticook and St. Hyacinthe, Que.

Penmans LIMITED

PARIS : : : CANADA



J. HENRY PETERS CO.

TRADE
HONEST MATERIALS
JHP
PERFECT WORKMANSHIP
MARK

Manufacturers of

Knitted, Woven and Braided Textile Specialties

Including

SILK COATS, SKIRTS, SCARFS, TIES
SHOPPING BAGS, SPORTS HATS, Etc.

TORONTO

H. L. BURRAGE
President

R. J. CALDWELL
Vice-President

TRACY S. LEWIS
Treasurer and Chairman

O. BUTLER
Secretary and Manager

CANADIAN-CONNECTICUT COTTON MILLS LTD.

MANUFACTURERS OF

FINE SEA ISLAND, EGYPTIAN, PEELER AND ARIZONA COTTON TIRE FABRICS

MILLS
Sherbrooke, P.Q., Canada
NEW YORK OFFICE
15 Park Row

R. J. CALDWELL CO., INC.
15 Park Row, New York
SELLING AGENTS

MONARCH-KNIT

THE MONARCH KNITTING COMPANY, LIMITED.



We manufacture a complete line of:

Silk Sweater Coats

in all the newest and most exclusive styles for women

Worsted Sweater Coats

including the very latest models of the popular pull-over styles for women

Bathing Suits

for men, women and children. Monarch-Knit Bathing Suit styles for women are smartly exclusive

Jerseys

A full line for men and boys—unexcelled in value

Hosiery

in Silk, Lisle, Cotton and Mercerized for men, women and children. Our range of High-Grade Silks for women is second to none

Hand-Knitting Yarns

"Monarch Floss" *"Monarch Down"* *"Monarch Dove"*

all three of these brands are noted for their excellent quality, evenness and strength

We operate three large factories, located at:—Dunnville, Ont.; St. Catharines, Ont.; St. Thomas, Ont. This large equipment gives us an output which, for size, variety, style, quality and workmanship, has no equal in the world.

THE MONARCH KNITTING CO., Limited

Head Office: Dunnville, Ont.

The
MONTREAL
COTTONS
LIMITED

MANUFACTURERS OF

WHITE VICTORIA LAWNS

WHITE NAINSOOKS

and

DYED COTTONS

OF EVERY DESCRIPTION

Wire Cloth
of every description



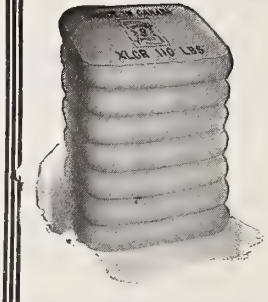
We make **Machinery Guards** of all kinds.
Metal Lockers for Clothes
Steel Shelving for all purposes.
Drop a line for full details.

CANADA WIRE & IRON GOODS CO.
HAMILTON, ONTARIO
Eastern Representative:
H. E. Bull, 184 Mance St.
Montreal, P.Q.

The Standard Woollen Mills Co. of Toronto, Ltd.

MANUFACTURERS OF

Blankets
Tweeds
Mackinaws
Overcoatings
Cloakings
Velours



"DOMINION"
COTTON AND WOOL WASTE AND COTTON WIPERS, WASHED AND STERILIZED

A WASTE FOR EVERY USE

6 Grades White Cotton Wiping Waste
5 Grades Colored Cotton Wiping Waste
4 Grades Wool Packing Waste
3 Grades Cotton Wipers, Washed and Sterilized

Samples with Prices on Request

Scythes & Company Limited
Montreal TORONTO Winnipeg

PATON MANUFACTURING COMPANY
OF SHERBROOKE

Manufacturers of Beavers, Meltons, Uniform Cloths, Broadcloths, Plain and Fancy Overcoatings, Fine Wool and Worsted Suitings, Homespuns, Cheviots, Dress Goods, Jersey Cloths, Cashmerette, Worsted Hosiery and Spinners of Worsted Knitting and Fingering Yarns

SHERBROOKE .. PROVINCE OF QUEBEC

Montreal Office: 325 Board of Trade Building **Toronto Office: 33 Melinda Street**

Cosmos Cotton Company
YARMOUTH, NOVA SCOTIA

Manufacturers of

COTTON DUCK
Brands "YARMOUTH" and "CHAMPION"

SAIL, WIDE AND OUNCE

PAPER MAKERS' FELTS A SPECIALTY

All widths up to 240 inches.

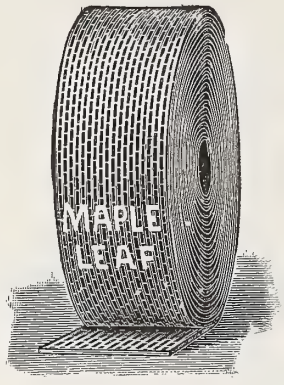
"YARMOUTH" PAPER FELTS ARE UNEXCELLED

INQUIRIES SOLICITED

Sole Selling Agents

J. SPENCER TURNER COMPANY
56 Worth Street, NEW YORK, and HAMILTON, ONTARIO

Dominion Belting Co., Limited
Hamilton, Canada



SOLE MANUFACTURERS OF THE CELEBRATED

"MAPLE LEAF" BRAND

STITCHED COTTON DUCK BELTING—

STRONG DURABLE ECONOMICAL
TRUE RUNNING

Being thoroughly waterproof it is equally good for running in wet or dry places. As a main drive belt, "MAPLE LEAF" cannot be excelled and for conveyors it is in great demand. A trial belt will convince you

MAPLE LEAF BELT DRESSING
The Best for all kinds of Belts

WRITE FOR SAMPLE AND PRICES

Quebec Branch: 51 Duluth Building, Montreal

Doon Twines
Limited
Kitchener - Canada

Manufacturers of
TWINES AND CORDAGE
CLOTHES LINES
PLOW LINES, etc.

We have a new line of Hemp Twine which we especially recommend for either light or heavy parcelling.

Our goods are made in Canada from the raw material. Assist the development of our country by buying Made-in-Canada goods.

MILLS AT DOON AND KITCHENER

THE BROWN BROTHERS
LIMITED
Simcoe and Pearl Sts. TORONTO



MANUFACTURERS OF
ACCOUNT BOOKS, LOOSE LEAF LEDGERS
Binders and Specialties
LEATHER GOODS—DIARIES—STATIONERY
Printers' and Bookbinders' Supplies

There is a

SADLER & HAWORTH BELTING

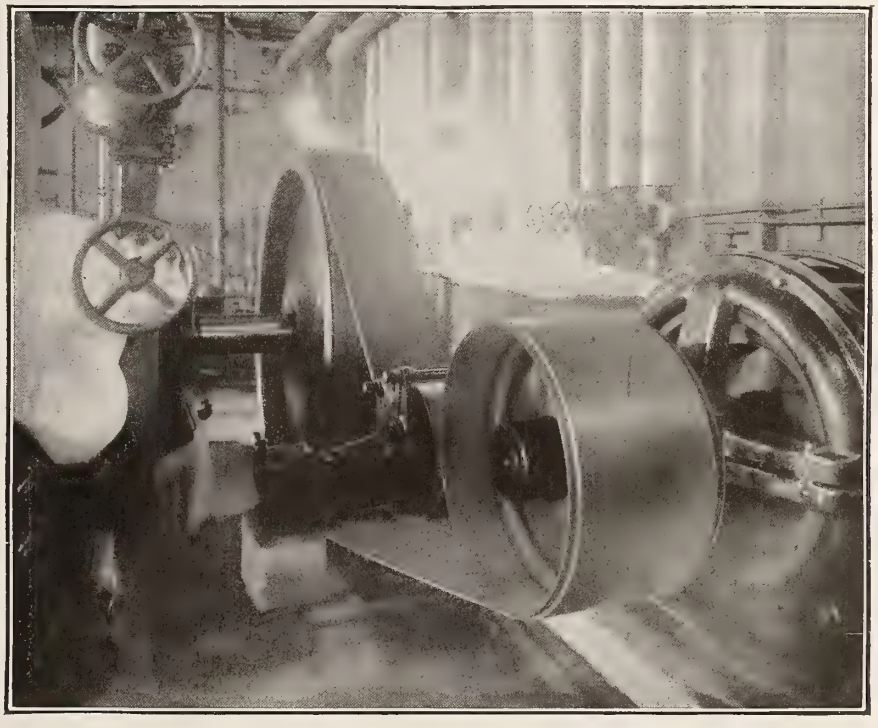
for use under every condition

SADLER & HAWORTH Belting is high quality Belting.

Quality Belting ensures you the least slippage, least breakage, takes up all the power and delivers all the power.

When Sadler & Haworth Belting feeds the power to your plant you are keeping transmission cost at a minimum.

Tell us your requirements. We'll be glad to furnish information and price of the belt that will best meet your needs.



A Sadler & Haworth Belt in the Matthews-Blackwell Plant at Montreal.

Illustration shows a S.&H. Belt connecting a 50-ton Ice Machine to 200 H.P. Canadian General Electric Motor. This unit has been in continuous operation since the middle of May. Belt is 17 inches wide, double "Climax" waterproof. Belt speed 5,652 ft. per minute.

SADLER & HAWORTH

Tanners and Manufacturers of Oak Leather Belting

511 William Street, Montreal P.Q.

Toronto, Ontario—38 Wellington St. E.; Winnipeg, Manitoba—Galt Building; Vancouver, B.C.—560 Beatty Street; St. John. N.B.—149 Prince William St.



Cut of 60-inch "Extra" Double Belt
Made by The J. C. McLaren Belting Co., Limited.

WE ARE HEADQUARTERS FOR ALL KINDS OF

BELTING
LACE LEATHER
CARD CLOTHING
REEDS AND
GENERAL
MILL SUPPLIES

ABSOLUTE SATISFACTION GUARANTEED

The J. C. McLaren Belting Co., Limited

ESTABLISHED 1856
Head Office and Factory
MONTREAL, Que.

Branches:
50 COLBORNE ST., TORONTO
80 LOMBARD ST., WINNIPEG

Made in Canada



From British Stock

"GENUINE OAK"

LEATHER BELTING

"D.K."

BALATA BELTING

Guaranteed to Give Satisfaction

D. K. McLAREN LIMITED

TORONTO MONTREAL ST. JOHN, N.B.
849 Beatty Street, VANCOUVER

LEATHER BELTING

Made in Canada

J. L. Goodhue & Co., Limited

DANVILLE, QUEBEC

Manufacturers of
SUPERIOR QUALITY LEATHER BELTING AND LACE LEATHER

QUALITY

Not Price Our Aim

Canadian Manufacturers SHOULD USE Canadian Belting

Winnipeg Agents:
BISSETT & WEBB, Limited
126 Lombard St.
Winnipeg, Man.

Vancouver Agents:
FLECK BROS., Limited
54 Cordova Street East
Vancouver, B.C.

Montreal Agents
STANDARD MACHINERY & SUPPLIES, Ltd.
260 ST. JAMES ST., MONTREAL



633-661 EASTERN AVE. ESTABLISHED 1852

THE above illustration will give you an idea of the enormous daily output of the famous Clarke's Patent Leather. In the upper left hand corner can be seen a large addition to our enamelling department. Therefore the boast:

The Largest Patent Leather Manufacturers in the British Empire

A. R. CLARKE & COMPANY

LIMITED

MONTREAL TORONTO QUEBEC

WICKETT & CRAIG, LIMITED

TORONTO

High Grade Bridle
Bookbinding Leathers
Oil Tan Moccasin Leather

Strap and Bag Leathers
Splits of all kinds
Goodyear Welting

CORRESPONDENCE INVITED

EXPORTERS OF
Reed Organs, Piano Stools,
Music Cabinets.
Catalogue B.

The Goderich Organ Co. Limited
GODERICH, CANADA

Closet Seats,
Flush Tanks,
Medicine Cabinets,
Everything for the Bathroom.
Write for Catalogue C and Price List.

Established 1849
BRADSTREET'S
Capital and Surplus - - $1,500,000
Offices Throughout the Civilized World
Executive Offices: Nos. 346 and 348 BROADWAY, N.Y. CITY, U.S.A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying, and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world. Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary, and business corporations. Specific terms may be obtained by addressing the Company at any of its offices. Correspondence invited.

OFFICES IN CANADA

Edmonton, Alta. Hamilton, Ont. London, Ont.
Halifax, N.S. Ottawa, Ont. Quebec, Que.
Montreal, Que. Toronto, Ont. Vancouver, B.C.
St. John, N.B. Winnipeg, Man. Calgary, Alta. Victoria, B.C. Sydney, N.S.

THOS. C. IRVING, Gen. Man. Western Canada, Toronto

J. Ford & Co.

PORTNEUF, QUE.

PAPER

MANUFACTURERS

MANUFACTURE
WRAPPING, HANGING, BAG, HARD SIZED NEWS LINING, COATING AND COLOURED POSTER PAPERS

The Griffin Curled Hair Co.

LIMITED

Manufacturers of

Sterilized Curled Hair

Dealers in

Mattress and Upholsterers' Supplies

Office and Factory—
304-320 St. Helen's Ave., Toronto, Ont.

Branch Warehouse—
252 St. James St., Montreal, P.Q.

WRITE FOR SAMPLES AND PRICES

H. & D. Corrugated and Solid Fibre Board



Hinde & Dauch corrugated and fibre board boxes can be used for shipping practically every commodity. The United States Food Administration has endorsed this style of packing for all lines of food products.



CONTAINERS will save on your transportation charges, save your floor space, cut down packing expenses, and give you positive protection against loss from damage and pilfering. Write for prices and samples.

The Hinde & Dauch Paper Co. of Canada, Limited

TORONTO - CANADA

Insist on a CANADIAN Bond Paper

For Your Stock Certificates



For Your Ledgers



No man is justified in buying a foreign made article when a Canadian made product of equal quality is obtainable at the same or a lower price.

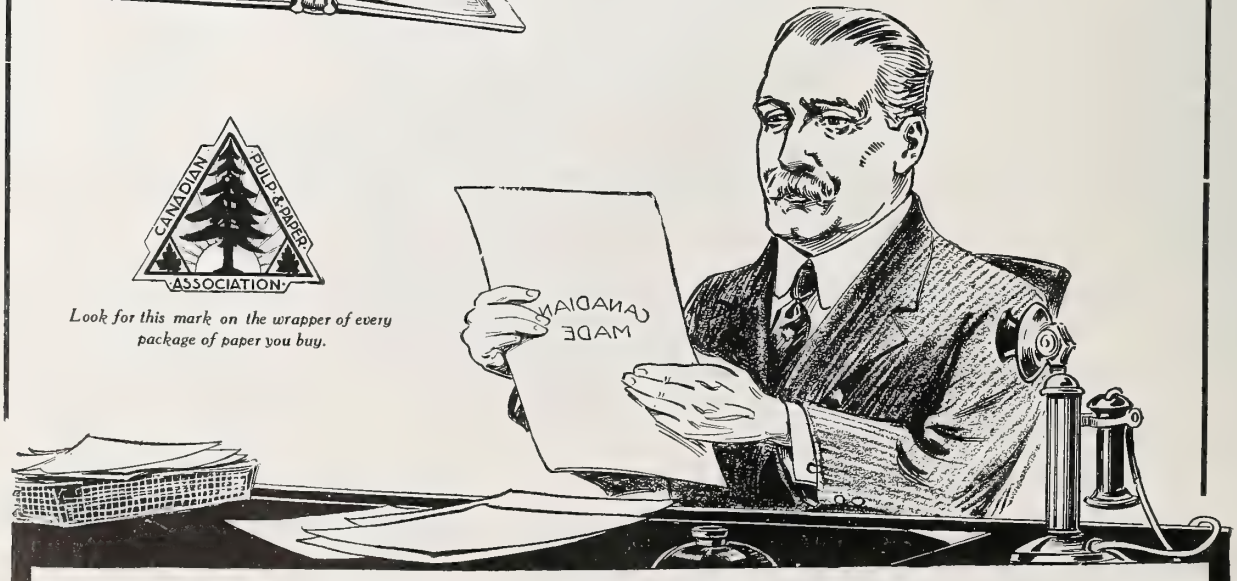
This applies especially to PAPER, for Canada is one of the greatest manufacturers of paper in the world.

No finer paper could be desired for Stock Certificates than is made right here in Canada. It has the weight, the surface, the crackle, the feel and the CHARACTER.

For your ledgers, too, a great variety of eminently suitable papers is at your command, without sending money out of the country. You want preference as a CANADIAN producer. We all do. It is a vital factor in Reconstruction.

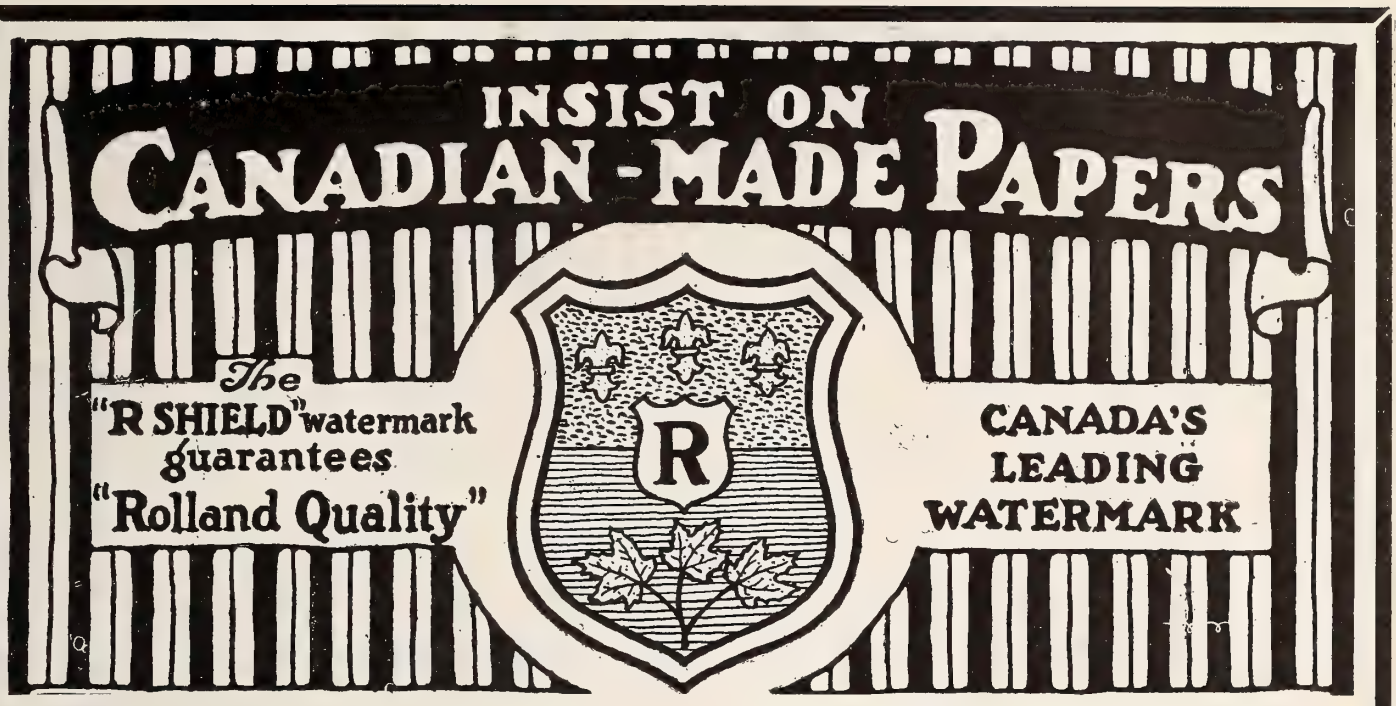
Give the word that all papers—Bond, Stationery, Booklet—used on your firm's work must be strictly Canadian.

Look for this mark on the wrapper of every package of paper you buy.



Write for booklet "Some Facts About the Pulp and Paper Industry of Canada."

Canadian Pulp and Paper Association, 304 Shaughnessy Bldg., Montreal



There is general satisfaction in using

Canadian-Made Papers

But the greatest satisfaction of all is to use "Rolland Quality" papers. They are the result of nearly 40 years experience in High Grade Paper Making in Canada.

Why not ask your printer to supply you with Canadian-Made Paper and to start right make it "Rolland Quality."

The following "R Shield" Brands meet the general requirements of commercial stationery:

Superfine Linen Record
Earnscliffe Linen Bond
Empire Linen Bond
Colonial Bond
Mount Royal Bond

Awarded

Grand Prix Paris 1900 Gold Medal Chicago 1893 Gold Medal Antwerp 1883

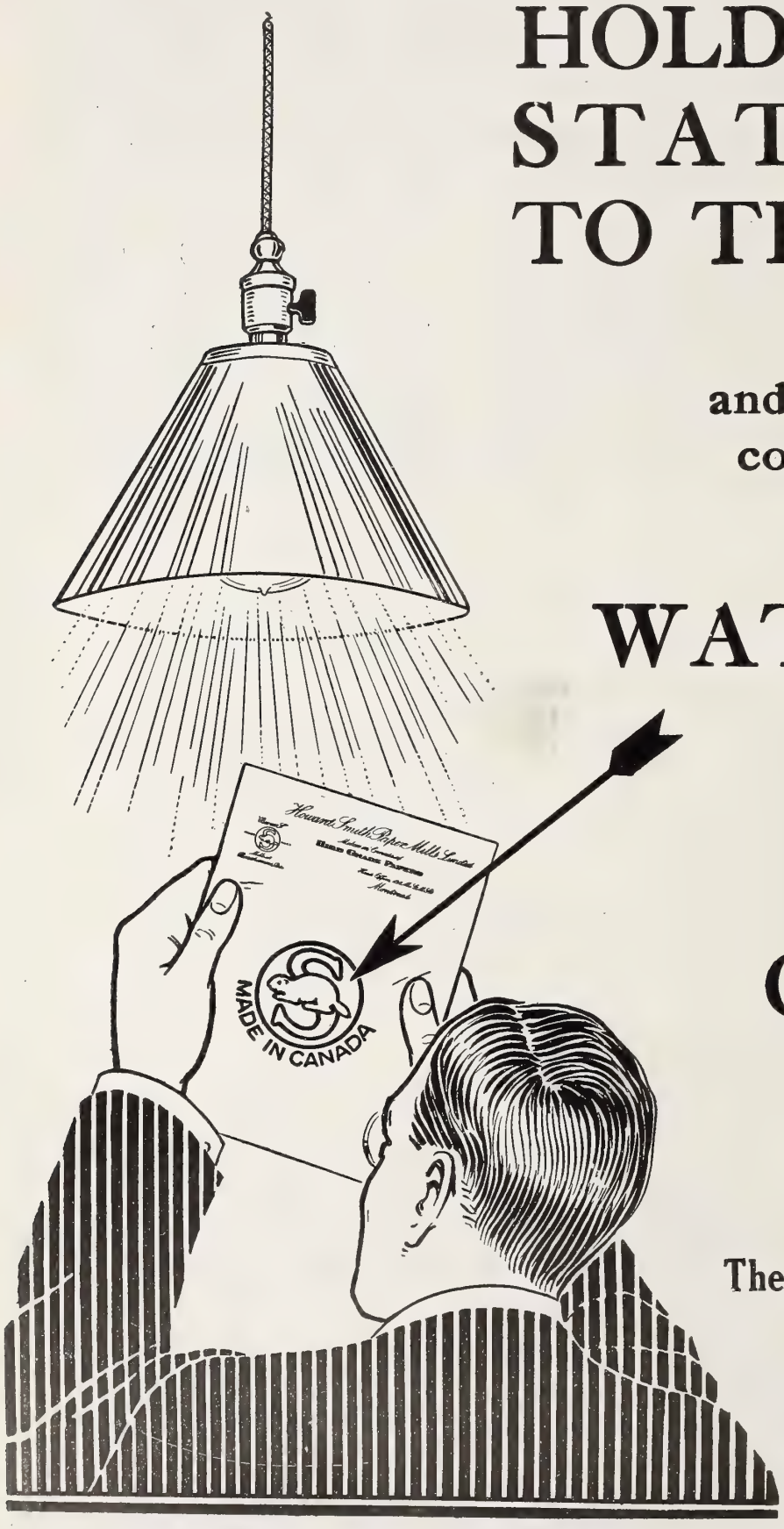
The Rolland Paper Co., Limited

High-Grade Paper Makers

General Offices:
142 St. Paul St. West, MONTREAL

Mills at
St. Jerome and Mont Rolland, P.Q.

HOLD UP YOUR STATIONERY TO THE LIGHT



and see that it contains this

WATERMARK

It is your guarantee for

QUALITY

-Made-in-Canada—

BY

The Howard Smith Paper Mills
LIMITED

138 McGill St., MONTREAL

MILLS AT

BEAUHARNOIS, QUE. and
CRABTREE MILLS, QUE.

THE EXPORT ASSOCIATION OF CANADA LIMITED

Head Office: MONTREAL - - 604 to 608 Eastern Townships Bank Building

OFFICES

Montreal and Vancouver, Canada
London, England
Paris, France
Brussels, Belgium

Auckland, Wellington, Dunedin } New Zealand
Durban, Johannesburg, Capetown } South Africa
Melbourne, Sydney } Australia
Port of Spain, Trinidad, Kingston, Jamaica } B.W.I.

SUCCESS lies not only in what a manufacturer makes for home consumption, but what he can, in addition, EXPORT.

THE EXPORT ASSOCIATION OF CANADA, LIMITED, through their efficient offices and agencies in various markets of the World, are kept constantly in touch with Trade requirements and make it possible for many Manufacturers hitherto doing a purely Domestic Business to Secure Export Trade.

Each Department of the Association is under the direct supervision of experts.

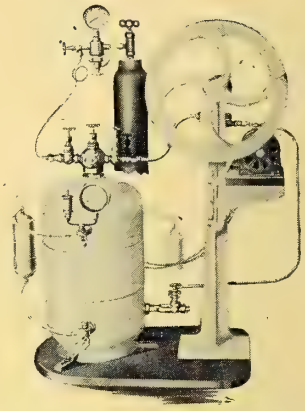
According to your requirements, please communicate with the following departments:

Agency
Insurance
General Sales
Wheat and Flour
Timber
Shipping

Factory Cafeteria and Lunch Room Equipment

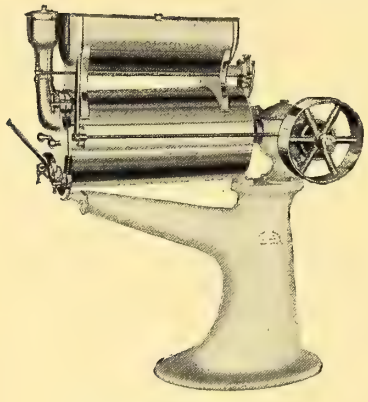


Soda Fountain



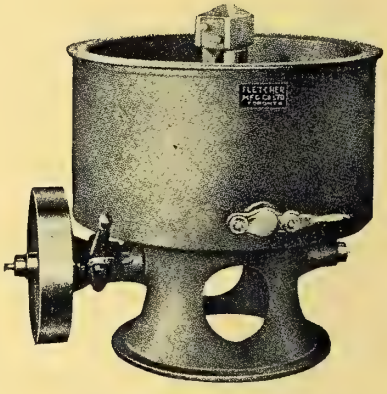
Soda Water Carbonator

WAXED PAPER STRAWS



Ice Cream Freezer

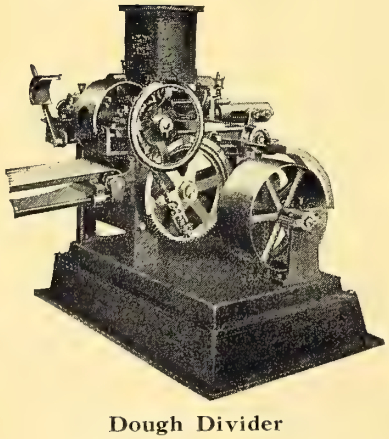
ICE CREAM MACHINERY and UTENSILS



Chocolate Melter

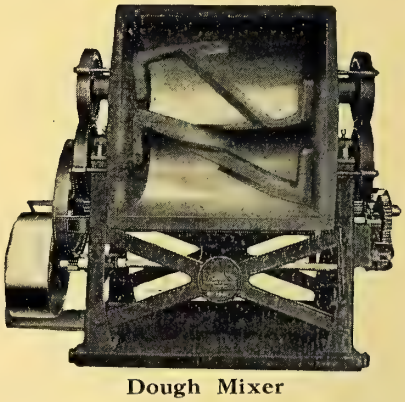
CANDY TOOLS and MACHINERY

BAKERS' MACHINERY TOOLS and UTENSILS



Dough Divider

SODA FOUNTAINS and CARBONATORS



Dough Mixer

And all accessories pertaining to these lines.

Prevailing Conditions Make it Impossible to Offer Goods for Export at Present

FLETCHER MANUFACTURING COMPANY
LIMITED

29-41 HAYTER ST., TORONTO, CANADA

Factories:—Toronto and Glencoe

Riordon Sales Company
Limited
Montreal

FINE QUALITIES IN BLEACHED AND UNBLEACHED

SULPHITE FIBRE, WOOD PULP FOR PAPER MILLS

ALSO SULPHITE SCREENINGS

HAWKESBURY "IMPERVIOUS SPRUCE" SHEATHING in 36 and 72 INCH ROLLS

SPRUCE and HARDWOOD LUMBER, CLAPBOARDS, CEDAR SHINGLES, RAILWAY TIES, FENCE POSTS LIQUID CAUSTIC SODA, WASTE SULPHITE LIQUOR, CONDENSED

SALES OFFICE:
MONTREAL, P.Q.

T. J. Stevenson Geo. E. Challes
Sales Managers

A NEPONSET ROOF

BUILT WITH NEPONSET PAROID OR NEPONSET TWIN SHINGLES GUARANTEES ROOFING SATISFACTION AND PROTECTION FROM FIRE AND WEATHER

EXPERIMENTS with unknown roofing materials for your buildings usually end in disaster, a short period of service, then a new roof becomes necessary. Slates are dislodged, wood shingles crack and warp, felt and tar are susceptible to every weather condition, giving at the best but poor protection.

You invest thousands of dollars in laying foundations and building walls. Naturally you expect and demand permanency. Apply the same conditions to the roof—durability and continuous service.

For your roofing requirements specify Neponset and be assured of durability and protection.

NEPONSET PAROID ROOFING. The ideal roofing material for railroad buildings, factories and warehouses. A roofing backed by nineteen years of service to sustain its reputation as the best ready roofing manufactured in Canada.

NEPONSET TWIN SHINGLES. Can be used serviceably and with splendid effect on factories, workshops and the office building. Made in two colors—red and green—Neponset Twin Shingles are of the same excellent stock as Paroid. Being thoroughly impregnated with Asphalt and surfaced with crushed slate, they are absolutely fire and weather-proof.

OTHER NEPONSET PRODUCTS: Neponset Wall Board—admirably suited for repairing damaged walls, building office partitions, ceilings, etc. Asphalt Felt, Black Waterproof Building Paper, Insulating Paper, Plastic Cement, Neponset Paint, Rubber roofing. Sound deadening felt.

Your enquiries are solicited. Full particulars and prices will be gladly furnished

BIRD & SON, LIMITED

Hamilton, Ontario

MILLS: Hamilton, Ont. Pont Rouge, Que.

WAREHOUSES: Toronto, Montreal, Winnipeg, Calgary, Edmonton, St. John, Halifax



SODA ASH

NOW

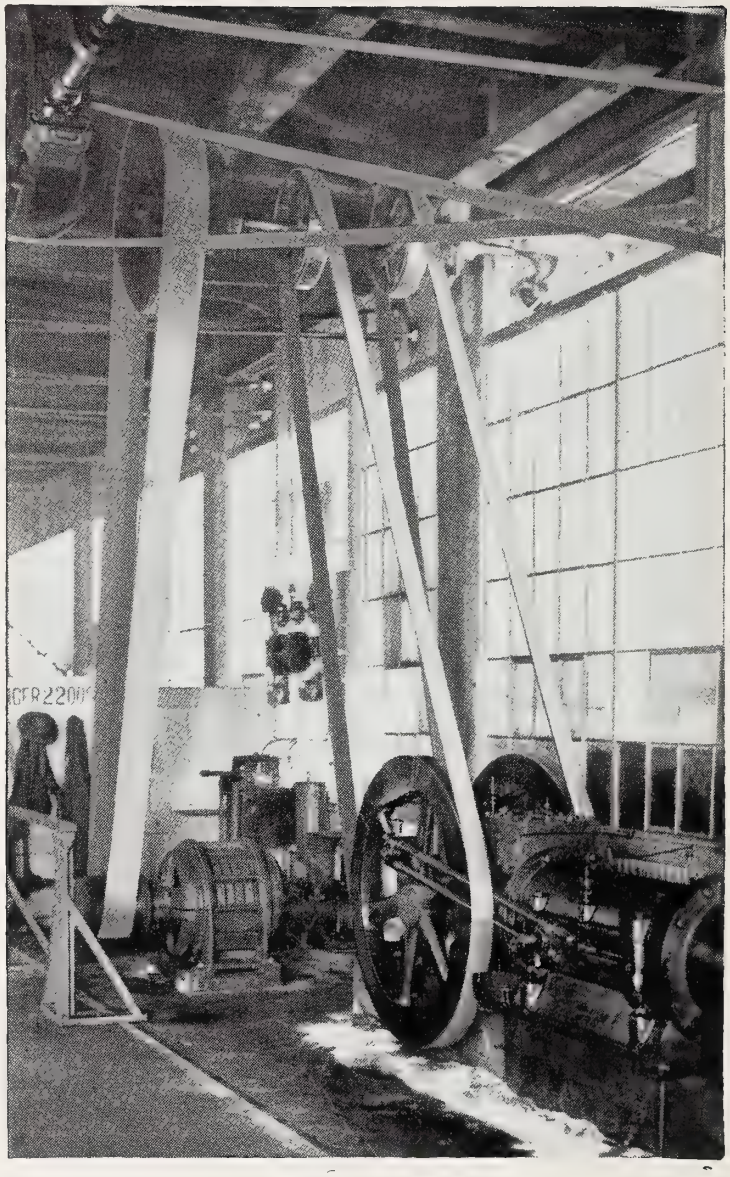
"MADE IN CANADA"

BY

BRUNNER, MOND CANADA, LIMITED

WORKS:
AMHERSTBURG,
ONTARIO

SALES AGENTS:
WINN & HOLLAND, LIMITED
137 McGILL STREET
MONTREAL



Trussed Concrete Steel Company, Limited
Walkerville, Ont.

The Trussed Concrete Steel Co., Limited, of Walkerville, Ontario, is one of the foremost reinforced concrete concerns in Canada, as well as the largest Canadian manufacturers of steel sash and steel casement windows. Their opinion of Goodyear Extra Power Belting is pithily expressed in this letter from Mr. S. Farrell, purchasing agent.

"We have been users of different types of belts for quite some time, but we have no belt which will stand wear as long as the Goodyear Extra Power Belting which we purchased from you some time ago. The photograph shows your 'Extra Power' belt in use on an air compressor. It has been in use on same for some time and is still as good as new, while other belts previously used lasted only two weeks. We are gladly replacing all our belts with Extra Power."

GOODYEAR
MADE IN CANADA

Power Costs Money—Conserve It

Goodyear Extra Power Belting costs you less because of longer service—and saves enough power to pay for itself

Industry wastes a great sum of money through inefficient transmission of power.

Belts slip—pulleys are out of alignment—bearings worn-belts too heavy or too light. And yet superintendents and managers wonder why production slows up—why costs mount.

To-day thousands of Canadian industrials have reduced their power-waste measurably through the correct application by Goodyear men of Goodyear Extra Power Belts to their drives.

Goodyear Extra Power Belts have increased power transmission in many cases to a remarkable degree.

They have provided steady, uninterrupted operation of vital machinery.

They have given long, low-cost service.

Letters on our files vouch in cold figures and warm praise for the results obtained from Goodyear Extra Power Belts.

A Goodyear man will call on you at any time you say—without obligation to you. He will record the size of pulleys, horsepower transmitted, speed, length of drive, conditions of work. And when our recommendation comes to you, it will bear the stamp of engineering ability. Phone, write or wire the nearest branch.

The Goodyear Tire & Rubber Co. of Canada, Limited

Halifax, St. John, Quebec, Montreal, Ottawa, Toronto, Hamilton, London
Winnipeg, Regina, Calgary, Edmonton, Vancouver

EXTRA POWER BELTING

DUNLOP

"Gibraltar RedSpecial" Belting

"THE ORIGINAL RED FRICTIONED-SURFACE RUBBER BELTING"

WHEN it's a question of unusual achievements in Beltdom, "Gibraltar RedSpecial" stands supreme.

As an effective means of trimming down "overhead" it is known far and wide.

This Red Frictioned-Surface Belt has dominated the field since its inception.

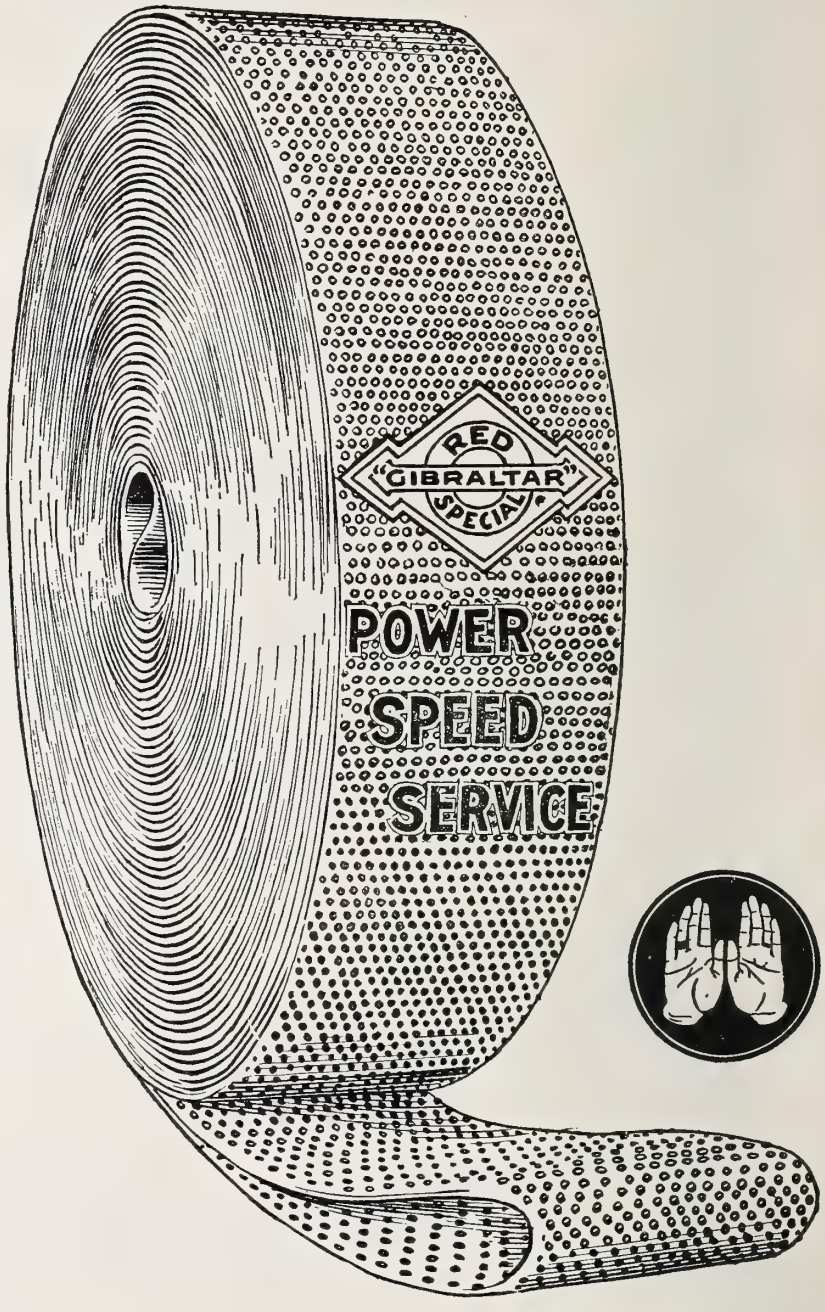
Without variation this belt has lived up to the exacting standard of service set by us when it was first introduced to belt buyers.

Having been tested and tried to the limit in all manner of places—and by thousands of users throughout the country from the Atlantic to the Pacific—"Gibraltar RedSpecial" will also secure you against the uncertainties which surround the use of "just-as-good" brands.

The price may be higher than that of "ordinary" belts, but the service is long and satisfactory in the extreme, as a multitude of long-time users will gladly testify.

With the Dunlop Unreserved Guarantee which goes with every belt, you should have no hesitation in making your next order read "Gibraltar RedSpecial."

You know the Dunlop reputation for square-dealing, too.



Dunlop Tire & Rubber Goods Co., Limited

Head Office and Factories - - - - TORONTO

BRANCHES IN THE LEADING CITIES

Makers of Tires for all Purposes, Mechanical Rubber Products of all kinds, and General Rubber Specialties



Why Dominion Friction Surface Belting Keeps Employees Satisfied

There are few manufacturers who haven't discovered that satisfied employees are an absolute necessity to low cost of production.

But poor equipment will not keep employees contented—it will not permit maximum production—it increases upkeep cost—it creates needless waste of time for operators and machines while making repairs.

Dominion Friction Surface Belting, in eliminating these conditions, does much to keep employees satisfied, for it enables operators to turn out maximum production at low cost—does away with most transmission troubles and saves power by taking a grip on pulleys that practically prevents all slipping.

Our Belting Experts are ready to show you how this "plus service" belting will keep your employees satisfied, just as they have for many other manufacturers. Phone, wire or write to our nearest service branch—there is no obligation.

CANADIAN CONSOLIDATED RUBBER CO. LIMITED
DOMINION RUBBER SYSTEM
AND ASSOCIATED COMPANIES

Services Branches

Halifax	London	Saskatoon
St. John	Kitchener	Edmonton
Quebec	North Bay	Calgary
Montreal	Fort William	Lethbridge
Ottawa	Winnipeg	Vancouver
Toronto	Brandon	Victoria
Hamilton	Regina	

Makers of Dominion Hose, Packing and Industrial Rubber Goods and Dominion Tires, the GOOD Tires for every purpose

CHURCH ORGANS

CASAVANT FRERES

ST. HYACINTHE, QUE.

TORONTO REPRESENTATIVE: L. E. MOREL, 440 SPADINA AVE.

Over 800 Pipe Organs Constructed by this Firm in Canada, United States, South America

REFERENCES:

Victoria, B.C.—Metropolitan Methodist Church
Vancouver, B.C.—St. Andrew's Presbyterian Church
Vancouver, B.C.—First Congregational Church
Nelson, B.C.—Methodist Church
Calgary, Alta.—Knox Presbyterian Church
Edmonton, Alta.—First Presbyterian Church
Saskatoon, Alta.—Knox Church
Moose Jaw, Sask.—St. Andrew's Church
Winnipeg, Man.—Grace Church
Winnipeg, Man.—Westminster Church
Stratford, Ont.—St. James' Episcopal Church
Brantford, Ont.—Brant Ave. Methodist Church
Hamilton, Ont.—St. Paul's Church
Toronto, Ont.—St. Paul's Anglican Church (The Largest in Canada)
Toronto, Ont.—Convocation Hall (University)
Toronto, Ont.—Conservatory of Music
Brockville, Ont.—First Presbyterian Church
Belleville, Ont.—Bridge St. Methodist Church
Ottawa, Ont.— St. Andrew's Church
Montreal, Que.—Notre Dame Church
Montreal, Que.—St. George's Church (Church of England)
Montreal, Que.—Emmanuel Congregational Church
Quebec, Que.—Holy Trinity Cathedral
Quebec, Que.—Chalmers' Church
Fredericton, N.B.—Cathedral (Anglican)
Moncton, N.B.—First United Baptist Church
St. John, N.B.—Trinity Church
Halifax, N.S.—All Saints Cathedral
Charlottetown, P.E.I.—Baptist Church
Dawson City, Yukon—R.C. Cathedral
New York City—St. Francis Xavier Church
Syracuse, N.Y.—First Baptist Church
New Bedford, Mass.—St. Anthony's Church
Boston, Mass.—Emmanuel Church (The Largest Church Organ in America)
Boston, Mass.—Opera House
Chicago, Ill.—Sinai Temple
Evanston, Ill.—North Western University
Kingston, Jamaica—R.C. Cathedral
Riobamba, Ecuador—Sacred Heart Church



Part of Organ in St. Paul's Church, Toronto
The largest in Canada

The Miner Rubber Company, Limited

MINER'S MONARCH

MINER'S GREYHOUND

Manufacturers of

RUBBER FOOTWEAR

MINER RUBBERS

WATERPROOF GARMENTS

and

RUBBERIZERS OF FABRICS

Factories, Granby, Que.

Branches and Agencies at
Montreal, Quebec, Toronto, St. John, Sydney, Charlottetown, Trenton, Ont., Hamilton, London, Winnipeg
Regina, Edmonton, Vancouver, B.C.

COPELAND-CHATTERSON

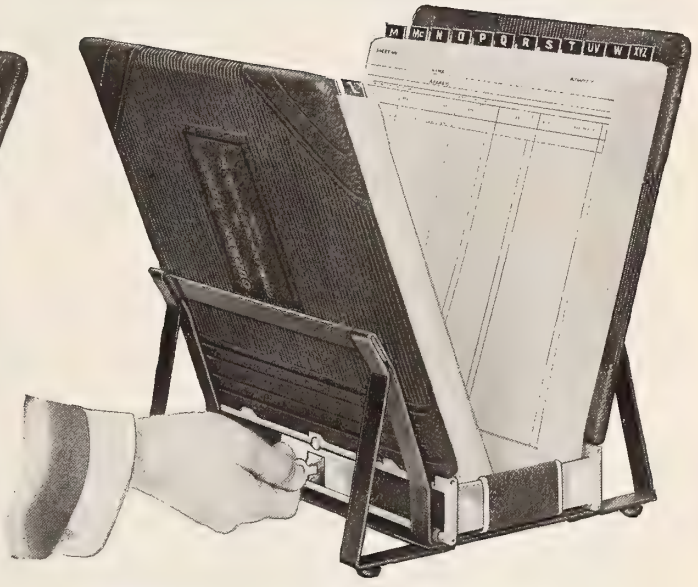
Equipment For

Mechanical Posting Machines



BINDER IN POSITION READY TO BE UNLOCKED

Note that Rubber Rollers rest on metal base and covers conform to UPPER angle of the arms of the Rack. This is a most convenient position for reference when the Binder is closed.



BINDER IS UNLOCKED AND EXPANDED BY ONE-QUARTER TURN OF THE KEY

The Rubber Rollers revolve on the metal base, which forms a track, and as the Binder opens the covers automatically adjust themselves to the LOWER angle of the arms of the Rack.

Mechanical Ledger Posting has already been extensively adopted in Canada. Most of the Banks, in their head offices and larger branches, and many large commerical concerns now use the idea—and with ever-increasing satisfaction.

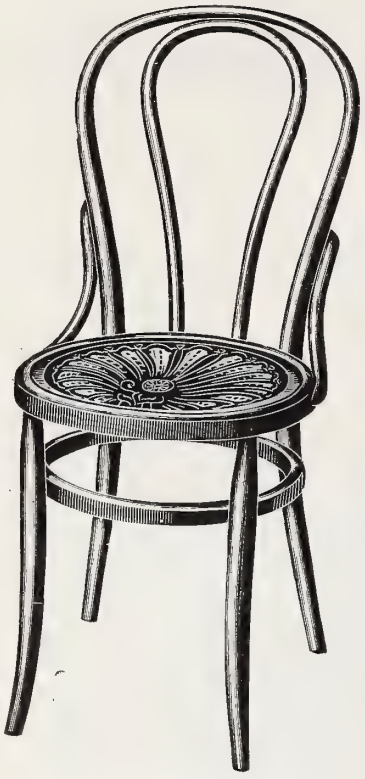
We have kept right up to the front with practical ideas to meet the heavy demand for this class of Loose-Leaf Equipment, and believe we are in position to serve prospective buyers with the best Loose-Leaf methods for getting results from Mechanical Posting. Our Sales Department is always glad to receive letters requesting demonstrations.

The illustrations on this page show how we have adapted our well-known "Bank Seal" Current Ledger Binder for Mechanical Posting. We have several other excellent devices for the purpose, both in styles of Binders and Steel Trays.

COPELAND-CHATTERSON, LIMITED

GENERAL OFFICES AND FACTORY

BRAMPTON, ONT.



No. 1800—EMBOSSED SEAT

The North American Bent Chair Co., Limited

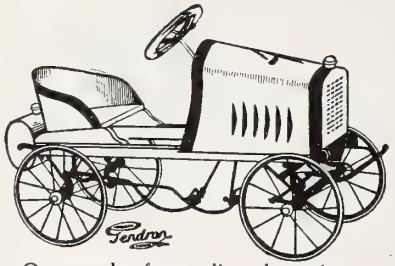
Owen Sound - Canada

Manufacturers of

Chairs for Home Consumption and Export

Write for our Catalogue and Prices

The Gendron Mfg. Co., Ltd.



One sample of many lines shown in our Grade "D" Catalogue

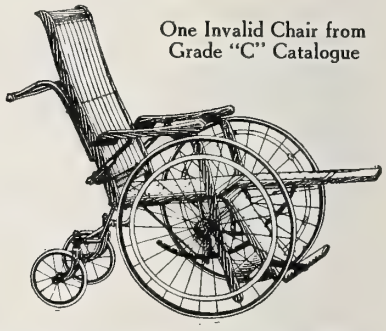


Sample of Baby Carriage shown in Grade "A" Catalogue

Makers of

Baby Carriages
Pram Cars
Carriers and Go-Carts
Reed Furniture
Invalid, Wheel and Rolling Chairs
Doll Cabs
Express and Rail Wagons
Children's Automobiles
Velocipedes
Toy Carts

If interested, write for catalogue you desire



One Invalid Chair from Grade "C" Catalogue



Bathroom Fittings and Hardware Specialties in Grade "G" Catalogue

The Gendron Mfg. Co., Ltd. - Toronto, Canada



Manufacturers of the famous

PURITY FLOUR

and other well-known brands



Also

PURITY OATS

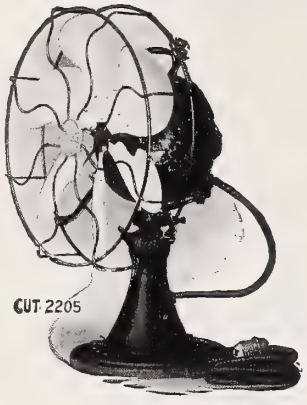
Western Canada Flour Mills Co., Limited

Head Office: Toronto, Canada

Cable Address—Lakuron

Branches at

Winnipeg **Calgary** **Vancouver** **New Westminster** **Goderich** **Montreal**
Brandon **Edmonton** **Victoria** **Prince Rupert** **Ottawa** **St. John, N.B.**



EMERSON FANS

are Dependable and are Guaranteed

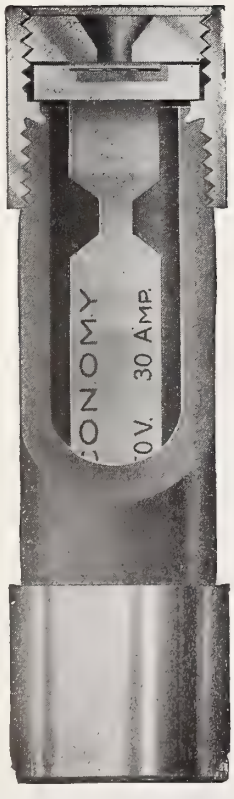
Give the most powerful breeze and in doing so consume less current than any other fan.

You will be delighted with the quiet running EMERSON FANS and just as enthusiastic as we are with the speed regulators and oscillating mechanism.

Catalog and Prices on Request

McDONALD & WILLSON, LIMITED
Electrical Fixtures, Supplies and Appliances

347 Yonge Street - Toronto



ECONOMY renewable FUSES

Stand between the user and unnecessary expense. An inexpensive "Drop Out" Renewable Link restores a blown Economy Fuse to its original efficiency. The resultant saving approximates 80% of annual fuse maintenance costs as compared with the use of one-time fuses.

This economy is effected with safety, as years of use have conclusively proved that Economy Fuses are all that could be desired as regards accuracy of rating and all-around efficiency. They cost least and serve best.

If you are among the thousands of Economy users you already know this. If not, try them and you ***will*** know.

Sold by leading jobbers and dealers everywhere.

Write for catalogue 40

ECONOMY FUSE & MFG. CO.
OF CANADA, LTD.
UNITY BUILDING - - MONTREAL

Manufacturers in Canada of S. & C. High Potential Fuses— to 150,000 volts

WELLAND VALE TOOLS

Are the Standard—Always the Same—Uniform Quality—Nothing Better

MAKERS OF

AXES, HOES, PICKS, SAWS, RAKES MATTOCKS, AGRICULTURAL FORKS, SCYTHES, GRUB HOES CULTIVATORS AND CROWBARS

Apply for Catalogue. Special Attention to Export Orders

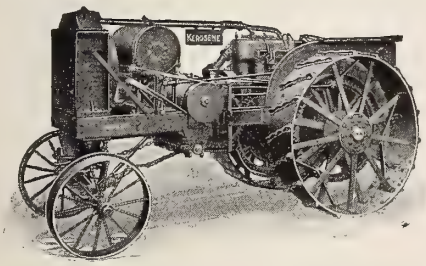
The Welland Vale Manufacturing Co., Limited

ST. CATHARINES, CANADA

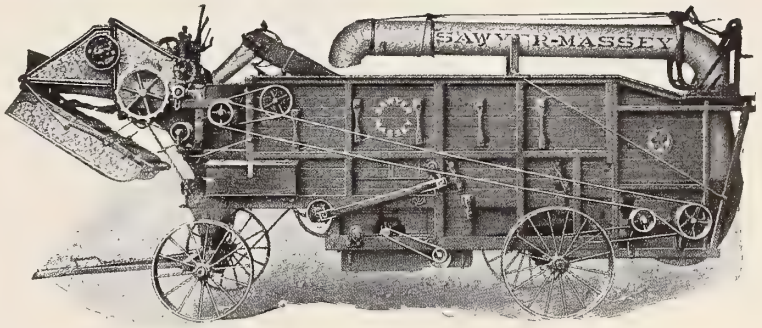
1836—1919

EIGHTY-THREE YEARS' EXPERIENCE

In Manufacturing for the Canadian and Foreign Trade



SAWYER-MASSEY GAS-OIL TRACTORS in 11-22, 17-34, 20-40, and 27-50 sizes. All designed after their GOLD MEDAL LINE, Four Cylinder Vertical Motors.



SAWYER-MASSEY SEPARATORS No. 1 and No. 2—22 in. Cylinder, 36 in. Body, and 28 in. Cylinder, 44 in. Body, shown complete with Feeder and Wind Stacker. NOTE neat appearance and few belts.

If Interested Consult

SAWYER-MASSEY CO., Limited

For Oil and Steam Tractors, Threshing Machinery, or Road Machinery

HEAD OFFICE: Hamilton, Canada.

BRANCHES: Winnipeg, Man.; Regina, Sask.; Saskatoon, Sask.; Calgary, Alta. AGENCY: Cape Town, South Africa.

OIL WELL SUPPLY CO.
LIMITED

MANUFACTURERS OF

Well Drilling Tools and Supplies

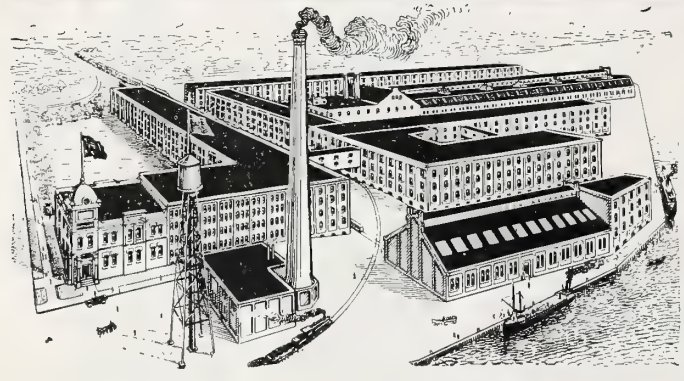
FOR

Oil, Gas, Salt or Water Wells

100 to 5,000 Feet Deep

CATALOGUE ON REQUEST

PETROLIA - - - - - CANADA



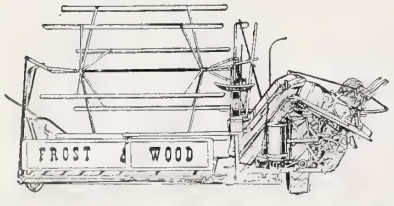
Frost & Wood MACHINERY

Since 1839 Frost & Wood Farm Implements and Machinery have been used by Canadian Farmers. During these years many changes have taken place in the types of machines furnished, but throughout the whole period the Frost & Wood standard of Quality has been maintained—and improved upon when that was possible.

Grain Binders
Corn Binders
Reapers
Mowers
Rakes
Hay Loaders
Disc Harrows
Drag Harrows
Spring Tooth Cultivators
Stiff Tooth Cultivators
Broadcast Seeders
Land Rollers

Etc., Etc.

Frost & Wood Agents control a full line of Farm Implements and Equipment. Ask for catalog describing it in detail.

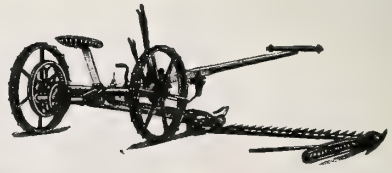


The Frost & Wood Co., Limited

Smith's Falls, Ontario, Canada

Branches at MONTREAL, ST. JOHN, TRURO and CHARLOTTETOWN

Sold in Western Ontario and Western Canada by
COCKSHUTT PLOW CO., LIMITED
Brantford, Winnipeg, Regina, Calgary and Saskatoon



MACDONALD MFG. CO., Limited
Toronto - Canada

Manufacturers of
PLAIN and LITHOGRAPHED CONTAINERS
for

Jam	Lard
Fruit	Oil
Vegetables	Paint
Meat	Varnish
Syrup	Tobacco
Butter	Talcum
Biscuits	Tea

Grocers' Sundries
Druggists' Sundries
Also Toys, Novelties, Tags and Advertising Signs

Well packed is half sold
Make your containers advertise you

Office and Works:
145 Spadina Avenue

Cable Address Hay, Woodstock, Ont.

Manufacturers
THREE AND FIVE PLY
Veneered PANELS
FOR ALL PURPOSES

In Plain and Figured Woods
Sewing Machine Woodwork and Other Specialties

Hay & Company
LIMITED
Woodstock - - Ontario

Corrugated Boxes
For Shipping Purposes

ALSO

FOLDING BOXES
of all Denominations

THE
Standard Paper Box Company
LIMITED
8 St. Paul Street East
MONTREAL

GEORGE E. SHAW ROBERT NORTHEY

THE
Telfer Manufacturing Co.
DUNCAN AND PEARL STREETS
Toronto, Canada

Manufacturers of
all kinds of

Paper Boxes

Folding and Solid Paper Boxes
for all purposes

Brushes of Merit

Whenever you buy a Toilet Brush (French Ivory or Ebony), a household or a stable brush or a broom bearing the Keystone trade mark, you receive a product made in Canada by Canadians.

Quality of material combined with superior workmanship place Keystone products high in the estimation of their users.

For lasting satisfaction—at reasonable prices, buy Keystone brushes and brooms.

Sold by all good dealers

TRADE MARK KEYSTONE BRAND REGISTERED

Stevens-Hepner Co.
Limited
Port Elgin, Ont.

ESTABLISHED 1875

Freyseng Cork Co., Limited
TORONTO - MONTREAL

MANUFACTURERS AND IMPORTERS OF

CORKS

Hand Cut—Machine Cut

BOTTLERS' SUPPLIES

Prescription Corks a Specialty

Corking Machines
Capsule Machines
Bottle Capsules
Tinfoil
U.S. Bungs and Plugs
Straw Covers
Bottle Baskets, etc.
Crown Corks
Keg Corks
Barrel Corks
Karl Keifer Filters and Machinery
English Filter Masse
Sealing Wax, etc.
Lead Seals
Label Gums and Pastes
Ermold Labelling Machines

Sole Agents in Canada for
Excelsior Bottle Wrappers Adriance Crowners
Ermold Labelling Machines
Universal Label Pasting Machines
Write for Quotations

AGENCIES:
HALIFAX — WINNIPEG — CALGARY
EDMONTON — VANCOUVER

WRIGLEY'S

THREE FLAVORS

WRIGLEY'S JUICY FRUIT CHEWING GUM THE FLAVOR LASTS

WRIGLEY'S SPEARMINT THE PERFECT GUM FIVE STICKS TRADE MARK REGISTERED THE FLAVOR LASTS

WRIGLEY'S DOUBLEMINT DOUBLE STRENGTH FIVE STICKS PEPPERMINT

FOUNDED 1871

R. LAIDLAW LUMBER CO.

SARNIA TORONTO 65 Yonge Street BUFFALO, N.Y.

MAPLE LEAF
M FINISHES THAT ENDURE L
QUALITY

Printing Ink
Dry Colors

Electrical
Insulating
Liquids and
Compounds

MAPLE LEAF
Paints and Varnishes

Made in Canada







Manufacturers of

Maple Leaf Brand Paints and Varnishes

Maple Leaf Paint.	Elastilite Varnish.
Maple Leaf Flat Wall Colors.	Granitine Floor Finish.
Maple Leaf Colors in Oil.	Orolite Oil Finish.
Maple Leaf Creosote Shingle Stains.	"Floglaze," the finish that endures.

The Imperial Saving System and Maple Leaf Quick Drying Coach and Automobile Colors

Primers.	Colors in Oil.	Gear Varnishes.
Fillers.	Colors in Japan.	Rubbing Varnishes.
Coach Enamels.	Body Varnishes.	Finishing Varnishes.

We also Manufacture

Japans.	Paint Dry Colors.	Stains.
Driers.	Printing Ink Dry Colors.	Wagon and Implement Colors.
Enamels.	Insulating Varnishes.	Wagon and Implement Varnishes.
Lacquers.	Electrical Compounds.	







Write us for color cards, descriptive literature and prices.

THE IMPERIAL VARNISH & COLOR CO. LIMITED
WINNIPEG TORONTO VANCOUVER
CANADA



Forgings, Stampings Pressed Steel Parts and Assemblies

Particularly in Large Quantities

Send for Illustrated Catalogue showing facilities for handling this class of work and samples

Dominion Forge and Stamping Co. Limited

Toronto Office: 206 Excelsior Life Bldg. **Walkerville, Ont.**



FOR CANADIAN and EXPORT TRADE

Staunton Wall Papers

MADE IN CANADA

The period of reconstruction inspires a higher order of home decoration.

In these New Wall Papers is plainly revealed a remarkable advance in design, coloring, technical treatment and finish which is in accord with the spirit of the times.

Two complete lines of 18 and 21 inch goods introducing many original and unique creations.

Ready-Cut Borders, which come cut out ready to hang, are shown in a profusion of exquisite conceptions.

STAUNTON "READY-TRIMMED" PAPERS save time and labor and prevent half the disorder in the home when re-papering is in operation.

Correspondence with the Trade is respectfully invited.

Staunton's Limited

WALL PAPER MANUFACTURERS AND EXPORTERS

TORONTO - - CANADA

Scarfe & Company

Makers of

DURABLE

VARNISHES

and PAINTS

Factory: BRANTFORD

WINNIPEG: 78 Lombard St.
Main 1619

TORONTO: 1035 Bathurst St.
Telephone Hillcrest 5109

MONTREAL: 472 Delorimier Ave.
Telephone East 442

GLYCERINE

LEVER BROTHERS LIMITED manufacture Glycerine for various industrial purposes, including Dynamite Glycerine, Pharmaceutical Glycerine and Industrial Glycerine. We cater especially to

Druggists
Confectioners
Paper Makers
Leather Trades
Tobacco Manufacturers
Explosive Manufacturers
Etc., Etc.

Lever Brothers Limited

Soap and Glycerine Manufacturers

TORONTO

PRINTING AND LITHOGRAPHIC INKS
DYES
DRY AND PULP COLORS FOR ALL TRADES

Manufactured by

THE AULT & WIBORG CO.
of Canada, Limited

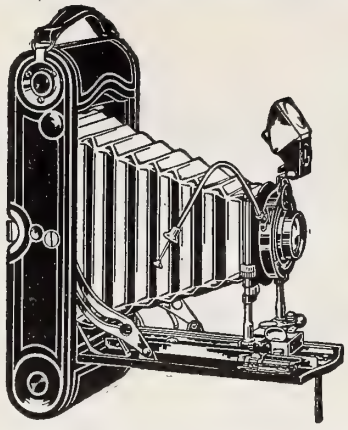
Also Manufacturers of

JAPANS

Baking and Air Drying Enamels
Varnishes, Etc. For all purposes

ADDRESS US AT ANY OF THE THREE CITIES

Montreal **Toronto** **Winnipeg**



No. 3A Autographic

KODAK

Price $25.25

The owner of a No. 3A Kodak is prepared for the making of good pictures, conveniently. has the knowledge that his equipment is right; that it is simple to operate, yet has the scope and quality for making photographs of the highest class. It's a commonsense camera, neither too complicated for the beginner nor lacking in anything required for high grade work.

Kodak catalog free at your dealers or by mail

CANADIAN KODAK CO., LTD.
Toronto, Canada

DAVIS & HENDERSON
LIMITED

Lithographers Embossers
Printers

Manufacturers of Envelopes
and
Special Account Books

578-580 King Street West
TORONTO

The National Victory Celebration Exhibition

TORONTO

Aug. 26 to Sept. 3, inclusive

THE Management thanks the Canadian Manufacturers for their splendid co-operation in the effort to make the Victory Year Fair the greatest in the history of the Canadian National Exhibition. To Exhibitors who have not already made arrangements we regret to announce that all available booths have been let and that no further space can be allotted either in the buildings or on the grounds.

JOHN G. KENT,
General Manager

The Coniagas Reduction Company, Limited

ST. CATHARINES - ONTARIO

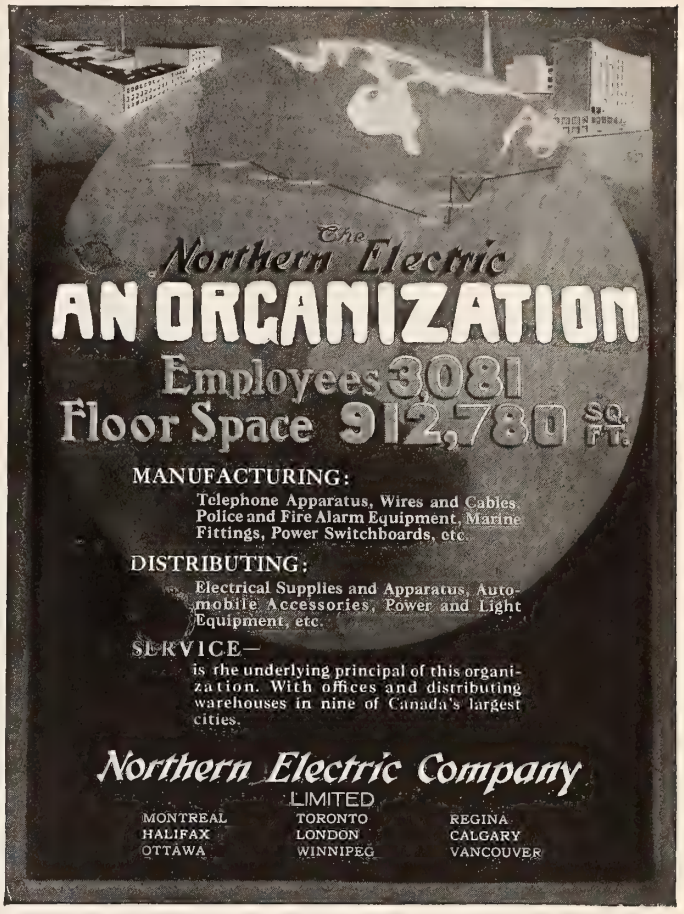
Smelters and Refiners of Cobalt Ores

Manufacturers of

Bar Silver
(Electrolytically Refined)
Arsenic
White and Metallic
Cobalt
Oxides and Metal
Nickel
Oxide and Metal
Copper Sulphate

Telegraphic Address: "Coniagas" Codes: Bedford McNeill A.B.C. 5th Edition

Bell Telephone 603 St. Catharines



FISHER BODY CO.

of Canada, Ltd.

Manufacturers of

AUTOMOBILE BODIES

QUANTITY CONTRACTS ONLY SOLICITED

FORD - ONTARIO

Baker's Cocoa and Chocolate



Registered Trade-Mark

MAKE AND KEEP GOOD CUSTOMERS

They are most reliable goods; sold with a positive guarantee of purity and superior quality; put up in conformity with the Pure Food laws; are readily sold, giving a quick turnover of stock.

WALTER BAKER & CO., LIMITED
Montreal, Can. Dorchester, Mass.

Established 1780

BANK OF MONTREAL

ESTABLISHED OVER 100 YEARS

Capital Paid up ..... **$20,000,000** | **Undivided Profits**..... **$1,661,614**
Rest..... **$20,000,000** | **Total Assets**..... **$489,271,197**

BOARD OF DIRECTORS

Sir Vincent Meredith Bart., President — Sir Charles Gordon, G.B.E., Vice-President

R. B. Angus, Esq. — Lord Shaughnessy, K.C.V.O. — C. R. Hosmer, Esq. — H. R. Drummond, Esq.
D. Forbes Angus, Esq. — Wm. McMaster, Esq. — Lt.-Col. Herbert Molson, M.C. — Harold Kennedy, Esq.
H. W. Beauclerk, Esq. — G. B. Fraser, Esq. — Colonel Henry Cockshutt — J. H. Ashdown, Esq.
E. W. Beatty, Esq., K.C.

Head Office: MONTREAL

Sir Frederick Williams-Taylor, General Manager

Branches of the Bank Located in All Important Cities and Towns in the Dominion

Savings Department connected with each Canadian Branch and Interest allowed at current rates.
Collections at all points throughout the world undertaken at favourable rates.
Travellers' Cheques, Limited Cheques and Travellers' Letters of Credit issued, negotiable in all parts of the world.
This Bank, with its Branches at every important point in Canada, offers exceptional facilities for the transaction of a general banking business.

PRINCIPAL OFFICES OUTSIDE OF CANADA:

LONDON, Eng.: 47 Threadneedle St., E.C.
Sub-Agencies; 9 Waterloo Place, Pall Mall, S.W.
Trafalgar Square, S.W.
PARIS, France: Bank of Montreal (France) 17 Place Vendome

In the United States:—
NEW YORK, CHICAGO, SPOKANE
SAN FRANCISCO—British American Bank
(owned and controlled by Bank of Montreal)
and at MEXICO CITY

NEWFOUNDLAND; St. John's Carbonear, Curling, Grand Falls and Greenspond

"DRYDEN" KRAFT PULP

Extra Strong, Long, Pure Sulphate Fibre

DAILY CAPACITY 120,000 POUNDS

KRAFT WRAPPING SHEATHING PAPERS

DAILY CAPACITY 45,000 POUNDS

Dryden Pulp and Paper Co., Limited

J. B. BEVERIDGE, Vice-Pres. DRYDEN, ONTARIO, CANADA

The Merchants Bank of Canada

Head Office, MONTREAL **Established 1864**

Capital Paid-up	$ 7,000,000
Reserve Funds	7,574,043
Total Deposits (April, 1919)	138,000,000
Total Assets (April, 1919)	166,000,000

President: Sir H. Montagu Allan, C.V.O.
Vice-President: K. W. Blackwell
General Manager: D. C. Macarow
Supt. of Branches and Chief Inspector: T. E. Merrett

Merchants and Manufacturers

are cordially invited to discuss all matters of finance with us.

The Merchants Bank is more than a mere depository—it is an Institution that stands ever ready to advise and assist its customers in regard to money matters, investments and business generally.

322 Branches and Agencies in Canada Extending from the Atlantic to the Pacific.

UNION BANK OF CANADA

Established 1865 **Head Office, WINNIPEG**

Paid-up Capital	$5,000,000
Reserve Fund	$3,600,000
Total Assets as at Nov. 30th, 1918, over	$153,000,000

IN EXTENDING YOUR EXPORT TRADE

You will find the facilities offered by the Union Bank of Canada a decided advantage in handling Drafts, Collections and Foreign Exchange.

The Commercial Information Bureau established in connection with the Foreign Exchange Departments of our London (Eng.), New York and Montreal Offices is at your service.

London, England, Branches:
6 Princes St., E.C. Haymarket, S.W.

New York Agency, 49 Wall St., New York City
W. J. Dawson - F. L. Appleby - W. M. Forrest, Agents

ESTABLISHED 1875

IMPERIAL BANK OF CANADA

CAPITAL PAID UP, $7,000,000 RESERVE FUND, $7,500,000

PELEG HOWLAND, President

The Imperial Bank offers exceptional banking facilities to Canadian Manufacturers. Branches throughout Canada. Agents and correspondents in all the world centres.

Collections made at all points in Canada and in foreign centres.

Drafts—Money Orders and Letters of Credit issued, available throughout the world.

Exchange—Domestic and Foreign Exchange bought and sold.

Government and Municipal Securities dealt in at all branches.

Savings received at all branches—interest credited half yearly at current rate.

Accounts of Merchants and Manufacturers solicited.

HEAD OFFICE - TORONTO

THE BANK'S POSITION

As at 30th November, 1918

Paid-up Capital	$15,000,000
Reserve Fund -	15,000,000
Loans - - -	249,151,984
Deposits - - -	353,158,816
Total Assets	440 310,703

THE CANADIAN BANK OF COMMERCE

THE CANADIAN APPRAISAL COMPANY
LIMITED

AFTER the outbreak of war there ensued a period of ever-rising costs of labor and material of every kind, and whilst a perceptible check has been experienced in this respect since the termination of hostilities, it is universally conceded that pre-war prices are not likely to return, but that, on the contrary, costs and values will be maintained very much as they are to-day for some considerable time to come.

These conditions have very largely destroyed the significance of figures of original costs appearing in Plant Accounts, particularly where these represent properties installed or acquired in pre-war times. Such figures are to-day misleading, and dangerous if adopted as a basis for insurance, and equally so for determining present day manufacturing costs.

Complete Insurance protection calls for present day values. The cost of replacing any but a new plant to-day would almost invariably be much greater than when it was originally installed, and if it is not insured on this basis of to-day's values you become a co-insurer; in other words, you are not fully protected, and in the event of a loss by fire you may have to bear a substantial part of such loss yourselves.

For the same reasons, a cost system based on pre-war costs is to-day a delusion and a snare.

During the past thirteen years we have appraised properties of every description and in every part of the Dominion, and for a variety of purposes, amongst others for:-

Purchase or sale.
Mergers and combinations.
Stock and bond issues.
Insurance placing and collection.
Liquidation of a business.
Establishment of Plant Accounts.
Determining Invested Capital.
Basis for depreciation, and depreciation charges.
Amortization of investment costs.

Correspondence Invited

Head Office, 17 St. John St.
MONTREAL

Toronto
Royal Bank Bldg.

New York
Equitable Bldg.

THE DOMINION BANK

HEAD OFFICE, TORONTO

Capital Paid Up - - $6,000,000
Reserve Fund - - - $7,000,000

Sir Edmund B. Osler, President — C. A. Bogert, General Manager

BANKING BUSINESS OF EVERY DESCRIPTION TRANSACTED

The Accounts of Manufacturers, Traders and Others Carried on Favorable Terms

Commercial Letters of Credit Issued Available in Foreign Countries

London, England, Branch: 73 Cornhill, E.C.
New York Agency: 51 Broadway

BANK OF HAMILTON

HEAD OFFICE: HAMILTON



Established 1872

Capital Paid Up (as of 27th June, 1919).....$3,933,260
Reserve and Undivided Profits (as of 27th June, 1919)....$4,051,744

BOARD OF DIRECTORS

Sir John Hendrie, K.C.M.G., C.V.O., President
Cyrus A. Birge, Vice-President
C. C. Dalton Robt. Hobson W. E. Phin I. Pitblado, K.C. J. Turnbull W. A. Wood

BRANCHES AT MONTREAL AND THROUGHOUT ONTARIO, THE NORTHWEST AND BRITISH COLUMBIA

Correspondents in Great Britain—National Provincial and Union Bank of England, Limited

Correspondents in United States

New York—Hanover National Bank
Mechanics and Metals National Bank
National City Bank
Philadelphia—First National Bank
Boston—National Shawmut Bank
Buffalo—Marine Trust Company
Pittsburg—Exchange National Bank
Detroit—First and Old Detroit National Bank
Chicago—Continental and Commercial National Bank
Cleveland—First National Bank
St. Louis—National Bank of Commerce
Kansas City—National Bank of Commerce
Minneapolis—Northwestern National Bank
Seattle—Bank of California
San Francisco—Crocker National Bank

Collections effected in all parts of Canada promptly and cheaply

CORRESPONDENCE SOLICITED — SAVINGS DEPARTMENT AT ALL BRANCHES

J. P. BELL, General Manager

1869 HEAD OFFICE, MONTREAL 1919

The Royal Bank of Canada

LONDON, ENG.
Princes St., E.C.

BARCELONA
Plaza de Cataluna 6

NEW YORK
68 William St.

VLADIVOSTOK
Siberia

French Auxiliary: **The Royal Bank of Canada (France)**
PARIS: 28 Rue du Quatre-Septembre

With our chain of **576** branches throughout Canada, Newfoundland, the West Indies, Central and South America, we offer a complete banking service to exporters, importers, manufacturers and others wishing to extend their business in these countries. Trade enquiries are solicited. Consult our local Manager or write direct to our **Foreign Department, Montreal, Que.**

67 FOREIGN BRANCHES

CUBA—Havana (5 Branches) Antilla, Banes, Bayamo, Caibarien, Camaguey, Camajuani, Cardenas, Ciego de Avila, Cienfuegos, Cueto, Florida, Guantanamo, Jatibonico, La Maya, Manzanillo, Matanzas, Moron, Nuevitas, Palma Soriano, Pinar del Rio Puerto Padre, Sagua la Grande, Sancti Spiritus, Santa Clara and Santiago de Cuba.
PORTO RICO—San Juan, Mayaguez and Ponce. **COSTA RICA**—San Jose.
DOMINICAN REPUBLIC—S. Domingo, Puerto Plata, Sanchez, S. Pedro de Macoris and Santiago de los Caballeros.
MARTINIQUE—Fort de France. **GUADELOUPE**—Pointe-a-Pitre and Basse Terre.
VENEZUELA—Caracas, Ciudad Bolivar, Maracaibo and Puerto Cabello.

BRITISH WEST INDIES

Antigua—St. John's. **Bahamas**—Nassau. **Barbados**—Bridgetown and Speightstown. **Dominica**—Roseau.
Grenada—St. George's. **Jamaica**—Kingston. **Montserrat**—Plymouth. **Nevis**—Charlestown. **St. Kitts**—Basseterre.
Tobago—Scarborough, **Trinidad**—Port of Spain and San Fernando.
BRITISH GUIANA—Georgetown, New Amsterdam and Rose Hall (Corentyne). **BRITISH HONDURAS**—Belize

A close working arrangement has been effected with the LONDON COUNTY WESTMINSTER & PARR'S BANK, LTD.

CAPITAL PAID UP & RESERVES - - - $31,500,000
TOTAL ASSETS - - - - - - - - $434,000,000

Rushing your men and overloading your equipment to increase production adds to your costs and reduces your standards. Our production systems decrease costs and improve standards.

Thorne, Mulholland, Howson & McPherson

INDUSTRIAL ADVISORS

Bank of Hamilton Building Toronto, Ont.

THE MERCHANTS BANK OF CANADA

Statement of Liabilities and Assets at 30th April, 1919

LIABILITIES

1. To the Shareholders	1919	1918
Capital Stock paid in	$7,000,000 00	$7,000,000 00
Reserve Fund	7,000,000 00	7,000,000 00
Dividends declared and unpaid	194,194 00	176,900 00
Balance of Profits as per Profit and Loss Account	574,043 32	437,973 92
	$14,768,237 32	$14,614,873 92
2. To the Public		
Notes of the Bank in Circulation	13,316,033 00	12,327,168 00
Deposits not bearing interest	43,552,214 61	34,886,747 83
Deposits bearing interest (including interest accrued to date of Statement)	91,904,993 37	75,946,985 48
Balances due to other Banks in Canada	2,614,696 64	1,400,941 75
Balances due to Banks and Banking Correspondents in the United Kingdom and foreign countries	105,076 96	1,161,976 79
Bills payable	.....	.....
Acceptances under Letters of Credit	464,153 05	598,851 20
Liabilities not included in the foregoing	.....	.....
	$166,725,404 95	$140,937,544 97

ASSETS

Current Coin	$4,946,946 33	$4,890,061 36
Deposit in the Central Gold Reserves	7,000,000 00	6,000,000 00
Dominion Notes	8,405,602 50	5,912,092 50
Notes of other Banks	985,044 00	893,076 00
Cheques on other Banks	6,082,616 99	5,311,786 12
Balances due by other Banks in Canada	3,215 80	4,704 37
Balances due by Banks and Banking Correspondents in the United Kingdom	123,496 50	82,580 53
Balances due by Banks and Banking Correspondents elsewhere than in Canada and the United Kingdom	1,903,040 10	1,357,843 03
Dominion and Provincial Government Securities, not exceeding market value	6,005,573 65	5,435,464 66
Railway and other Bonds, Debentures and Stocks, not exceeding market value	4,119,705 32	4,060,204 70
Canadian Municipal Securities and British, Foreign and Colonial Public Securities other than Canadian	15,238,399 32	14,589,065 54
Call Loans in Canada on Bonds, Debentures and Stocks	5,134,690 71	5,223,953 88
Call Loans elsewhere than in Canada	2,801,857 72	3,906,648 93
	$62,750,188 94	$57,667,481 62
Current Loans and Discounts in Canada (less Rebate of Interest)	95,874,426 04	76,194,016 15
Current Loans and Discounts elsewhere than in Canada (less Rebate of Interest)	332,918 12	339,987 29
Liabilities of Customers under Letters of Credit as per contra	464,153 05	598,851 20
Real Estate other than bank premises	782,326 64	312,928 11
Overdue Debts, estimated loss provided for	386,973 56	272,226 60
Bank premises at not more than cost (less amounts written off)	5,253,269 48	4,886,438 98
Deposit with the Minister for the purpose of the Circulation Fund	366,000 00	355,000 00
Other Assets not included in the foregoing	515,149 12	310,615 02
	$166,725,404 95	$140,937,544 97

H. MONTAGU ALLAN,
President.

D. C. MACAROW,
General Manager.

Report of the Auditors to the Shareholders of The Merchants Bank of Canada

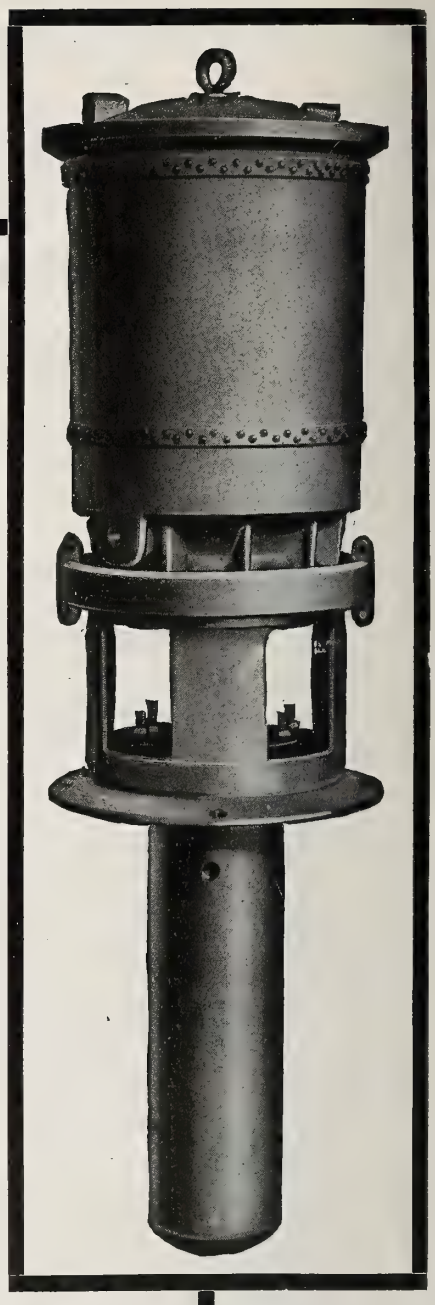
In accordance with the provisions of sub-Sections 19 and 20 of Section 56 of the Bank Act, we report to the shareholders as follows:

We have examined the above Balance Sheet with the Books of Account and other records at the Chief Office of the Bank and with the signed returns from the Branches and Agencies and have checked the cash and verified the securities of the Bank at the Chief Office against the entries in regard thereto in the books of the Bank at 30th April, 1919, and at a different time during the year and found them to agree with such entries. We also attended at some of the Branches during the year and checked the cash and verified the securities held at the dates of our attendances and found them to agree with the entries in regard thereto in the books of the Bank.

We have obtained all the information and explanations we have required. In our opinion, the transactions of the Bank which have come under our notice have been within the powers of the Bank, and the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Bank's affairs, according to the best of our information and the explanations given to us, and as shown by the books of the Bank.

VIVIAN HARCOURT, }
GORDON TANSLEY, } Auditors.
(of the firm of Deloitte, Plender, Griffiths & Co.)

Montreal, 23rd May, 1919.



AKRON-WILLIAMS HYDRAULIC PRESS AND VULCANIZER FOR Curing Automobile Tires

BUILT IN CANADA

The Press as Illustrated Embodies :

COOLING TANK AND MOULD LIFT COMBINED, QUICK-ACTING BOLTLESS HEAD, AUTOMATIC PACKING, STEEL CASTING AND PLATE CONSTRUCTION EXCEPT THE CHILLED IRON RAM. A TRIED AND PROVEN DEVICE USED BY MANY TIRE MANUFACTURERS

SPACE ECONOMY
LABOR SAVED
EFFICIENCY

Also—

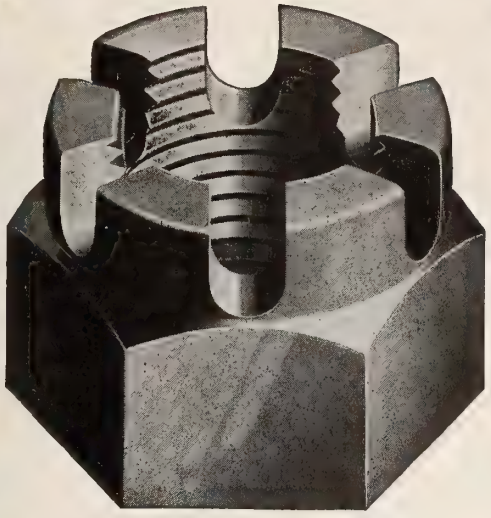
Hydraulic Pressing Equipments
For All Purposes

Pumps, Accumulators, Presses Valves, Piping and Fittings

Ask for Catalog

The Hydraulic Machinery Co.
LIMITED

MONTREAL **CANADA**



Castellated Nuts

Cap and Set Screws

PLAIN NUTS IN STOCK



Standard sizes and threads

Special screw machine work made to specifications from Iron, Steel and Brass Bars in sizes up to 2¼" and 10½" long.

Quotations on your samples or blueprints.

The National Acme Company

De Courcelles and G. T. R. Montreal, P.Q.

Where Jenkins Bros.' Valves are Made

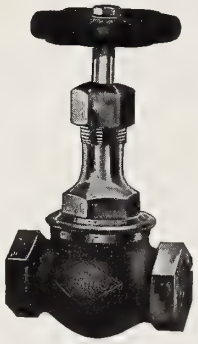


Fig. 106



Factory and Head Office of
JENKINS BROS. LIMITED
Montreal, Canada



Fig. 141

Where plants are scientifically operated, valve value is measured by service rendered, and by yearly ***lack*** of up-keep cost.

If valves break down before other items of equipment, an injustice is done to the entire plant; because valves should last as long as good plant equipment. Good valves do.

Consider—40 per cent. of the Nation's Coal Pile is lost each year by power plants, from their coal investment through poor steam transmission, and from unnecessary labor costs.

JENKINS BROS.' VALVES will keep your plant running and save you money.

A Protection to the User

A steam user who installs Jenkins Bros.' Valves, can do so with the knowledge that he is protected by the maker against defects and imperfections. Our dealers have instructions to replace, without question, any imperfect or defective Jenkins Bros.' Valve returned to them.

Catalogue No. 8 sent free on request.

Head Office and Works
103 St. Remi St.
Montreal - Canada

JENKINS BROS.
Limited
Agencies in All the Principal Countries of the World

European Branch:
6 Great Queen St.
Kingsway
London, W.C. 2, Eng.

No Motor or Engine is Better Than Its Spark Plugs



Champion "Heavy Stone"
B 13....½ inch
B 43....⅞-18
B 53....⅞-long
Price $1.25



Champion "O"
For Overland Cars
A 14 "O", ½ inch
Price $1.00



Champion "X"
A 15, ½ inch
Price $0.90

You may have the best motor in the world, but it cannot produce maximum power without efficient spark plugs.

On the same principle a spark plug is no better than its insulator which although a seemingly insignificant part of your motor or engine, must withstand the same hammering blows of gas explosions and the same rapid expansion as the steel cylinder in which it is placed. That is where 3450 insulators in

Champion

Dependable Spark Plugs Demonstrate Their Superiority

3450 separate experiments have produced in Champion insulators a material so much like steel in its ability to take the hardest kind of punishment that it is practically indestructible.

Do you wonder that four out of five gasoline motors and engines have Champion Plugs as standard equipment?

There is a type of Champion Plug that will enable your motor or engine to produce its highest efficiency no matter what its make or what it is used for.

Any spark plug with "Champion" on the insulator is guaranteed to give you satisfactory service.

Sold wherever motor supplies are sold.

Champion Spark Plug Co. of Canada, Limited
Windsor - Ontario



Champion
"Maxwell"
for
Maxwell Cars
A 44, ⅞-18
Price $1.00



Champion
"Studebaker"
for
Studebaker Cars
A 13 ½ inch
Price $1.00
A 43, ⅞-18



Champion "Buick"
for
McLaughlin Cars
A 53, long ⅞-18
Price $1.00



Champion "Aero"
Truck
Jas 43, ⅞-18
Price $1.00

Clydesdale

MOTOR TRUCKS

MADE IN CANADA



CLYDESDALE 5 TON LORRY

The value of a Motor Truck to its owner is gauged entirely by the continuity of its operation.

CLYDESDALE TRUCKS are maintaining their record, earned all over the world, for continuous uninterrupted operation, low operating and upkeep costs. This is due to the perfection of design found in Clydesdale Trucks and the high quality of the materials used.

CLYDESDALE TRUCKS are built by a Canadian Manufacturer, to a great extent from Canadian Materials. The Clydesdale plant was established here to better serve Canadian Manufacturers, and to give the best possible service to Canadian Users of Transportation.

CLYDESDALE TRUCKS must be seen to be fully appreciated. We would like to send you a catalogue and, if you will permit, show you a Clydesdale in actual operation.

THE CLYDE CARS COMPANY CANADA LIMITED

General Offices and Plant—73-81 Pearl Street

TORONTO, CANADA



The Montreal Home of Alaska Guaranteed Bedding

The accompanying illustrations show two of our large and moderately-equipped factories comprising the ALASKA organization—***the largest organization in the British Empire devoted to the Manufacture of Beds and Bedding.*** In our factories is made the comprehensive, high-grade line of Brass and Steel Beds, Bed Springs, Steel Couches, Mattresses and Pillows bearing the famous "Guaranteed Alaska Bedding" trademark shown below.

ALASKA Guaranteed Beds and Bedding are giving complete satisfaction in a very large and ever-increasing number of Canadian homes. Many of Canada's finest HOTELS, HOSPITALS and other institutions are equipped throughout with ALASKA products; SLEEPING CARS and STEAMSHIPS are similarly equipped.

The strategic location of our factories assures prompt service to every dealer in Canada—and every ALASKA product shipped, bears the money-back-if-dissatisfied ALASKA guarantee.

Therefore you can buy ALASKA Guaranteed Beds and Bedding with absolute confidence.

GUARANTEED ALASKA BEDDING



The Winnipeg Home of Alaska Guaranteed Bedding

"Alaska on an article means high-grade every particle."

The Alaska Bedding Companies

Montreal Winnipeg Calgary Vancouver
Associated with the Simmons Company, Kenosha, Wis., U.S.A.

Poster Advertising



REACHING all the people—masses, classes, old and young; indelibly photographing the true colored-to-life image of your packages, in actual use, with a maximum of desire producing suggestion—that is POSTER ADVERTISING, quick, decisive and persistently active.

Posters are telegraphic in effect and emphatic in their results. Ask any of our clients: The Imperial Tobacco Co., of Canada, Ltd.; Atlantic Sugar Refineries, Ltd.; Canada Starch Co.; C. H. Catelli, Ltd.; Tooke Bros., Ltd.; D'Allaird Mfg. Co., Ltd.; Gillette Safety Razor Co., of Canada, Ltd.; Palmolive Soap Co.; Carnation Milk Products Co.; Canada Steamship Lines, Ltd.; Sherwin-Williams Co., Ltd.; W. Clark, Ltd., or any of the many other National advertisers we have served.

Then write us—suggestions for brain—tagging posters that will definitely establish your brands and help to keep them immune from competitive attack will be cheerfully furnished.

Let us send you complete information for a campaign anywhere in Canada or the U.S.A.

The CANADIAN POSTER CO.

HEAD OFFICE **Montreal, Canada** Cable Address: POSTER AD.

Official Representatives of the Poster Advertising Association of Canada



Are you, Mr. Manufacturer, held in the grip of prejudice or inaction?

You have goods to sell, you know it—but does the great big public?

There are thousands of mills and factories producing meritorious quality that have but a hand-to-mouth existence because of defective advertising.

Inefficient advertising is a heavy charge in any business; it impedes production, increases cost and courts failure.

Posters have become immensely popular during the war; they were wonderfully effective in producing immediate results. The Victory Loan, National Service, Food Board, and Thrift Stamp Poster Campaigns were all entrusted to our care and were a dominant factor in the huge success.

We number among our clients the most aggressive and successful advertisers in Canada; handle every detail of Poster Advertising and are in a position to render you a service that is unequalled.

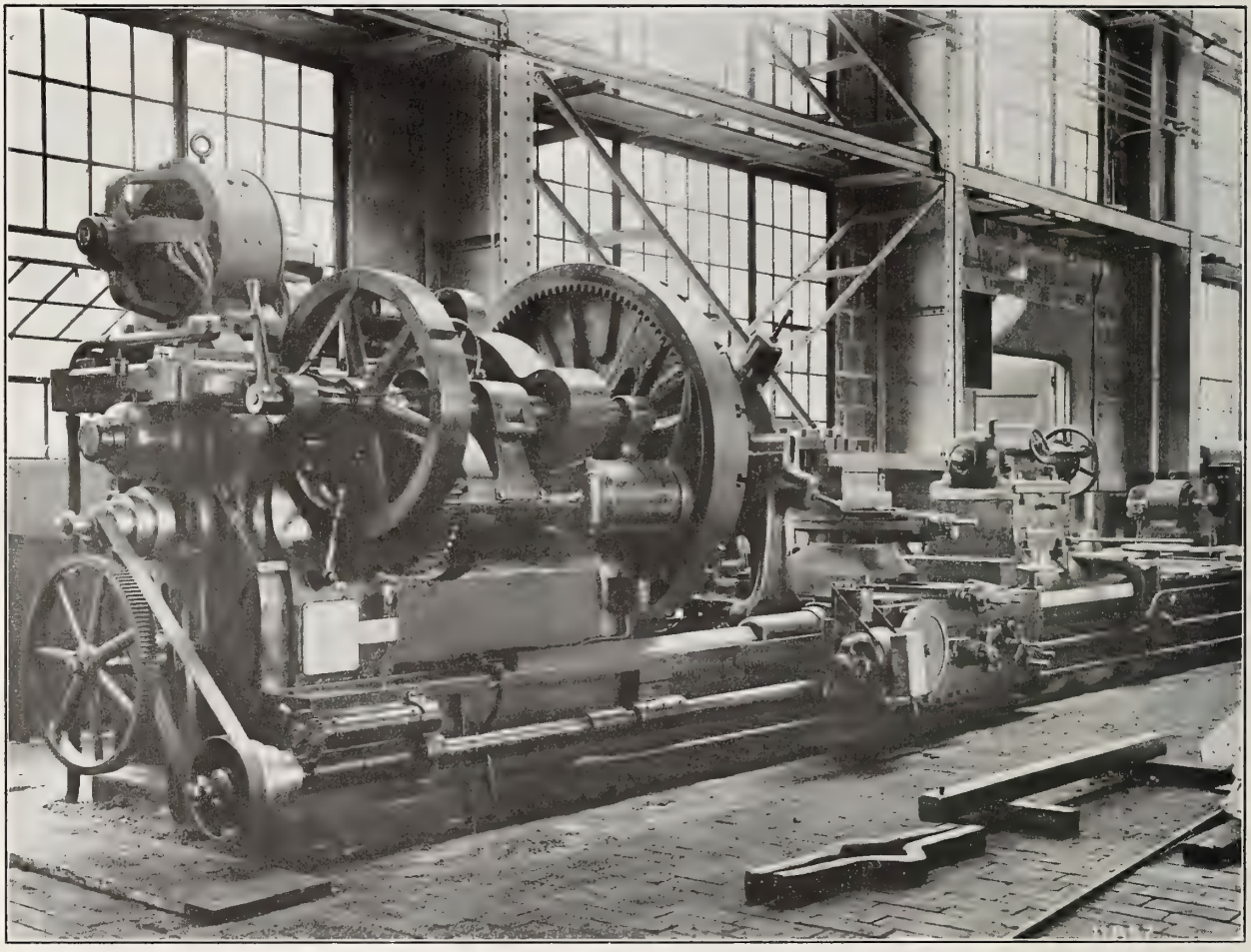
Our staff of Poster artists are yours to command and we will gladly furnish you full information about Poster Advertising anywhere in Canada or the U.S.A.

The CANADIAN POSTER CO.

HEAD OFFICE **Montreal, Canada** Cable Address: POSTER AD.

Official Representatives of the Poster Advertising Association of Canada

Westinghouse
Direct-Current, Variable-Speed Motors for Machine-Tool Drive



Westinghouse Direct-Current, Variable-Speed Motor Driving Lathe

Westinghouse Variable-Speed Motors, with Westinghouse Automatic Control, enable the operator to start, stop, reverse, or vary the speed of the machine tool with ease and accuracy, from any convenient point, according to the requirements of the work. We have made Machine Tool Motors and Control a special study, and are prepared to meet every requirement of the machine tool user.

Owners of Westinghouse apparatus are invited to make use of our Service Dept. Repair Shop, where repair work will receive prompt and efficient attention. Repair shops are located at:—

MONTREAL—10 St. Sophie Lane
WINNIPEG—158 Portage Ave. E.
TORONTO—16 Temperance St.
CALGARY—328 9th Ave. W.

Canadian Westinghouse Company, Limited, Hamilton, Ontario

TORONTO Bank of Hamilton Bldg.
MONTREAL 285 Beaver Hall Hill
OTTAWA Ahearn & Soper, Ltd.
HALIFAX 105 Hollis St.
FORT WILLIAM Cuthbertson Block
WINNIPEG 158 Portage Ave. E.
EDMONTON 211 McLeod Bldg.
CALGARY Canada Life Bldg.
VANCOUVER Bank of Ottawa Bldg.

INDUSTRIAL CANADA

Issued monthly as the official publication of the Canadian Manufacturers Association (Incorporated), and devoted to the advancement of the industrial and commercial prosperity of Canada.

PRESIDENT OF THE ASSOCIATION
T. P. Howard, Phoenix Bridge & Iron Works, Ltd. Montreal

VICE-PRESIDENTS
J. S. McKinnon, S. F. McKinnon & Co., Limited, Toronto
W. S. Fisher, Enterprise Foundry Co. ..... St. John, N.B.

PUBLISHING COMMITTEE
J. F. MacKay (Chairman), Willys-Overland, Limited, Toronto
W. J. Bulman, Bulman Bros., Limited ..... Winnipeg
F. P. Megan, Wm. Davies Co., Limited ..... Toronto
I. H. Weldon, Provincial Paper Mills Co., Limited, Toronto
J. F. M. Stewart, Pointe Anne Quarries, Limited ... Toronto
C. Howard Smith, Howard Smith Paper Mills, Ltd., Montreal

INDUSTRIAL CANADA DEPARTMENT
Advertising Manager ..... D. B. Gillies
Editor ..... W. A. Craick

OTTAWA OFFICE (217 Booth Building)
Representative ..... G. M. Murray
Assistant ..... E. Blake Robertson

C.M.A. OFFICIALS
Head Office, Toronto
General Manager ..... J. E. Walsh
General Secretary ..... J. T. Stirrett
Manager, Transportation Department ..... J. E. Walsh
Assistant Manager, Transportation Department .. S. B. Brown
Managers, Insurance Department .. Willis, Faber & Co., Limited
Manager, Tariff Department ..... J. R. K. Bristol
Manager, Commercial Intelligence Department .. Alex. Marshall
Secretary, Legal Department ..... H. Macdonald
Manager, Trade Sections Department ..... J. M. McIntosh
Office Manager and Accountant ..... J. Winfield

SECRETARIES OF DIVISIONS
Maritime ..... H. R. Thompson, Box 93, Amherst, N.S.
Quebec, W. P. Hughes, 113 Board of Trade Bldg., Montreal
Ontario H. Macdonald, 1404 Bk. of Hamilton Bldg., Toronto
Prairie, G. E. Carpenter, 503 Northern Crown Bank Bldg., Winnipeg, Man.
Pacific, H. Dalton, 705 Board of Trade Bldg., Vancouver, B.C.

CONTENTS OF THIS ISSUE

Editorial Comment 145
The Annual Meeting—Combines and Fair Prices Act—The Royal Commission on Industrial Relations—Attacking the Manufacturers.

1919 Convention Proceedings ..... Official Report 149
Reports of Committees—Presidential Address—Election of Officers—Resolutions Passed—Speeches at the Annual Banquet.

Canada's Opportunity in the Export Field ..... Lloyd Harris 200
Requirements of Great Britain and many European Countries are enormous—What has been accomplished in securing orders.

The Causes of Labor Unrest in Canada ..... G. B. Nicholson, M.P. 214
Natural nervous strain through which whole world has passed—Economic Pressure—Work of the Agitator.

Industrial Relations and the Tariff Question ..... W. C. Good 218
Desirability of Realizing Industrial Democracy—Radical changes in system of taxation should be viewed with less hostility.

Problems of the Day Facing Canadian People ..... W. S. Fisher 226
Relations between Capital and Labor—Necessity of finding outlets for surplus products—Tariff maintenance essential.

Millions of Cards for Made-in-Canada Appeal ..... Sir John Willison 229
Canadian Reconstruction Association launches its big campaign this month for the encouragement of home industry.

Unemployment Pay in Great Britain ..... John C. Kirkwood 231
Over a million people in receipt of out-of-work donations—Twenty-five million provided in this year's budget to meet charge.

A Chance for a New Industry in Canada ..... Lyman B. Jackes 242
Biological Products for use in Veterinary Practice for most part in hands of foreign firms—Financial aspect of the situation.

Among the Industries 250

Trade Inquiries 258

SUBSCRIPTION
Two Dollars per Year Single Copies 20 cents
Advertising Rates made known on application

OFFICES
1404 BANK OF HAMILTON BUILDING
TORONTO



Barrett Specification Roof on the Geo. Pattinson Co. buildings, Preston, Ont. General Contractors—P. H. Secord & Sons, Brantford, Ont. Roofer—Brown Jarvis Roofing Co., Brantford, Ont. Architect—J. Micklen, Preston, Ont.

These Buildings all have Roofs that can be *forgotten* for 20 Years!

THE owner of each of these buildings has received from us a Surety Bond, issued by one of the largest surety companies in the world *guaranteeing their roofs against leaks, wear, and maintenance cost for twenty years.*

Of course, Barrett Specification Roofs do not need this guaranty to make them wear and last. The fact that most of the important buildings in Canada have the Barrett Specification type of roof proves that.



Barrett Specification Roof on the plant of the Pollock Manufacturing Co., Ltd., Kitchener, Ont. Architect—C. Cowan. Roofer—Brown Jarvis Roofing Co., Brantford, Ont.



Barrett Specification Roof on Athelma Apartments, Toronto, Ont. Roofer—Reggin & Spence, Toronto.

We issue this Surety Bond Guaranty merely as a means of impressing upon you our confidence in Barrett Specification Roofs. The guaranty is your assurance that you have on your building a roof that will need no attention and will give you complete, unqualified satisfaction for twenty years at least, *and probably much longer.* All you need to do to have such a roof is to incorporate in your building specification this sentence: "The roof shall be laid according to The Barrett Specification dated May 1, 1916, and the contractors shall obtain for us the Barrett 20-Year Guaranty Bond."

There is no charge for this Bond. It is obtainable on any roof of fifty squares or larger in towns of 25,000 or more, and in smaller places where our Inspection Service is available.

It will be issued to reputable roofing contractors, approved by us, who use the materials specified and who will agree to examination and approval by our inspectors. Barrett Specification Roofs cost less per year of service than any other kind; they take the base rate of fire insurance; in fact, any way you look at it, a Barrett Specification Roof is the best roofing made for permanent buildings.

A copy of The Barrett 20-Year Specification, with roofing diagrams, sent free on request.

The Barrett Company LIMITED

MONTREAL TORONTO WINNIPEG VANCOUVER
ST. JOHN, N.B. HALIFAX, N.S. SYDNEY, N.S.

INDUSTRIAL CANADA

ISSUED BY

The CANADIAN MANUFACTURERS ASSOCIATION.

INCORPORATED.

Vol. XX. TORONTO, JULY, 1919 No. 3

Editorial Comment

The President's Membership Appeal

"EVERY one of us must get one more member this year."—President T. P. Howard at the Annual Meeting.

How many will answer the call of the President?

The Head Office of the Association

THE location of the Head Office of the Association was finally determined at the Annual Meeting. Suggestions had been made that it should be moved to Ottawa. In January, however, it was decided by the Executive Council that a Branch Office should be opened in Ottawa, with committee room accommodation for visiting members. This arrangement was considered satisfactory, and there were no dissenting voices when President Howard of Montreal moved that the Head Office should remain in Toronto.

The Annual Meeting

THE Annual Meeting of the Association, held in Toronto on June 10th, 11th and 12th, was one of the most important in the history of the Association. Certainly no Convention ever confronted more difficult problems. They even compared with those of the war. Great as the war difficulties were, we always felt in the bottom of our hearts that we would win the war, but a great many people began to feel during the last few months that the problems of peace held greater promise of disaster than the problems of war. Such people were no doubt unduly pessimistic, and did not rely sufficiently on the good sense of the great majority of the Canadian people. The mental attitude of those at the Annual Meeting was not one of pessimism, nor yet of undue optimism. It was rather one of conviction that Canadians would remain united and, by co-operation, retain and improve the working basis necessary for our national development.

The reports dealt with a large number of important questions, some of which were not unfamiliar and had been the subject of reports for many years. Many questions, however, were new. In the old days, the Annual Meetings were gatherings of business men who were interested chiefly in pursuing their occupations from the Canadian viewpoint. The last few years have changed all this. We have formed a connection with Europe which time will not sever. Canada is no longer provincial. Whether she wants to or not, she has to take part in world affairs. This fact was present in the minds of those who attended the Convention. They felt that now they have to look abroad and pay more attention to international matters and organize their business accordingly.

Increase in the Membership Fees

THE broadening of the activities of the Association, with a consequent enlargement in the staff, in addition to greater operating expenses, necessitated an increase in the fees of members. In order that the revision should be as scientific as possible, the proposal was first considered by the Membership Committee in February last and a schedule approved. The matter was then referred to the Executive Committee, which appointed a Committee of sixteen, drawn from different parts of Canada, to make a report. This Committee met, recommended further increases in addition to those proposed, and reported back to the Executive Committee, which in turn made the necessary recommendation to the Executive Council during its meeting in Montreal in March. Council approved the proposed increases and referred them to the Annual Meeting for final action. The Annual Meeting unanimously endorsed the increases and warmly approved the Council's determination to provide adequate service to the membership.

The Speakers at the Convention

THE Convention was specially fortunate this year in the personnel of the speakers and the vital interest of the topics which they discussed. Mr. Lloyd Harris, Chairman of the Canadian Mission in London, addressed the Convention during one of the business sessions and again at the Annual Dinner. Every word he uttered was of interest to Canadian manufacturers as he told of the struggle that the Canadian Mission had waged in Europe in the endeavor to secure business for Canadians. With him were linked up the efforts of all those representatives

who have been sent overseas since the signing of the armistice, and this co-operation produced results.

Mr. George B. Nicholson, M.P., Chairman of the High Cost of Living Committee, brought fresh from the sessions of the Committee ideas on the labor situation and production and distribution which were intensely interesting to those present.

Mr. W. C. Good, of the United Farmers of Ontario, told how the farmers viewed the present situation and what remedies they proposed for improvement.

Mr. M. A. Brown, Mayor of Medicine Hat and President of the Alberta Industrial Development Association, described the natural resources of Alberta, and urged upon his hearers the claims of Alberta as an industrial Province.

Lieutenant-Governor Brett of Alberta extended an invitation to Canadian manufacturers to attend the Conference of the Alberta Industrial Development Association in August next, and see for themselves the resources of that Province.

All the above addresses are published in this issue and will well repay careful perusal.

Creation of Divisions

THE Annual Meeting endorsed the proposal to create five Divisions of the Association for administrative purposes. These Divisions are:

Maritime Division—Provinces of New Brunswick, Nova Scotia, and Prince Edward Island.
Quebec Division—Province of Quebec.
Ontario Division—Province of Ontario.
Prairie Division—Provinces of Manitoba, Saskatchewan, and Alberta.
Pacific Division—Province of British Columbia.

It is proposed that the Divisions shall deal with matters affecting manufacturers within their territory, leaving the Head Office to deal with matters which will affect members generally throughout Canada. By this arrangement it is hoped that centralized action will be quickly available, and that at the same time local matters will not escape the attention which they deserve.

Attacking the Manufacturers

OUR industrial system at the present time is under heavy fire. It is being attacked by numerous persons and organizations who apparently consider that they have authority to speak accurately of social problems. They forget one point, however. The factories of Canada employ at present about 700,000 people. Estimating that each employee has on the average two dependents, the factories of Canada support directly about 2,000,000 Canadians. These factories therefore enable 2,000,000 Canadians to live in houses, to secure food, clothing and other necessaries and comforts of life. It is also worth noting that in addition to those who are actually employed in factories, and their dependents, probably 3,000,000 Canadians live through their indirect association with the industrial system of Canada.

It is curious, but nevertheless true, that the most bitter opponents of our present industrial system are those who have never employed anybody and who have a most limited knowledge of business. A great many of these people have resurrected economic theories which have been discarded during the past two centuries, and advocate regulating modern industrial life by these models. Considerably over half the people of this country get their living directly or indirectly through the turning of factory wheels, and yet any sensational preacher, agitator or newspaper writer who wants to fill an hour of time or a column of space with invectives, can apparently secure an audience when he attacks the system which enables them to live.

Shorter Hours

THE eight-hour day mentioned by the Peace Conference has been universally considered to be eight hours six days a week, or forty-eight hours in each week. Certain sections of labor, however, show no tendency to be satisfied with this definition of the eight-hour day. In many cases they have demanded that the eight-hour day shall mean a forty-hour week. Before the outbreak at Winnipeg, the six-hour day was openly advocated in various parts of Canada, and a number of irreconcilables still say that they intend to work towards that end. It is almost certain that the mine workers of England will get a seven-hour day, and strong efforts are being made by certain of their leaders to have this reduced in a short time to a six-hour day. Where is it going to end?

High Cost of Living

MANUFACTURERS are getting more than their share of blame for the high cost of living. The manufacturer only performs one function, that of bringing an article to a certain stage of manufacture. In the case of the milling industry, for example, raw material is bought from the farmer, who for some time has been enjoying a fixed price for wheat. When the article is made, the manufacturer sells it to distributors. As a rule he has nothing to do with the distributing process. It must not be forgotten that every step of the many which are required to bring the article from the raw state to the possession of the ultimate consumer, is affected by the constantly rising prices of raw material, caused by world scarcity on account of the war and by the enormous increases in wages. The manufacturers are as helpless in dealing with these two primary causes as any other class of the population.

History shows that wars are succeeded by high prices. It could not be otherwise. Is it strange, then, that this, the greatest of all wars, should be followed by high prices? Over 20,000,000 men have been diverted from their proper occupations of providing food, shelter, clothing, and other articles for five years. An immense amount of material has been wasted. The result is a world-wide scarcity. Until civilization has been re-organized for production, there will be no real relief from the high cost of living. Increased production is the only solution.

Scope of Whitley Plan Councils

THE Whitley Plan, providing for Joint Industrial Councils of employers and employees, which was distributed to the members of the Association some months ago, was made a subject of investigation by the Royal Commission on Industrial Relations, which has just made its report to the Government. The majority of the Commissioners believe that a Joint Industrial Council, or Workers' Committee, should be established in each plant and should consist of a number of employees duly elected and a similar number from the management. They believe that this Council should meet monthly and should deal with the following subjects:

(1) Wage rates.
(2) Hours of labor.
(3) Conditions surrounding a worker in the plant, such as safety, ventilation, light, sanitation, provision for meals, dressing-rooms and shelter.
(4) Child and women labor.
(5) Questions of discipline and conduct as between management and work people.
(6) Conditions surrounding the worker outside the plant, such as education, amusement, recreation, health, housing, apprenticeship, or special training libraries.
(7) Improvement in the plant or process to improve quality, increase production and decrease waste.

The Commission believe that a start should be made by having joint plant councils organize in each industrial plant in Canada, but that no effort should be made towards a more extensive organization of district or national councils until their usefulness becomes apparent.

Combines and Fair Prices Act

THE Dominion Parliament in the last days of the session passed the Combines and Fair Prices Act and the Board of Commerce Act, the latter providing the machinery to administer the former. Apparently this legislation resulted from the sessions of the High Cost of Living Committee of the House of Commons.

The object of the new legislation is to restrain and prohibit the formation and operation of "combines." The expression "combines" means such organizations which it is considered operate, or are likely to operate, to the detriment of the public interest. It does not include combinations of workmen; hence the legislation does not affect the Trade Union Act.

The Board of Commerce, created under the second Act, is empowered to proceed against suspected persons, who must appear before it when summoned, either in person or by counsel.

Any British subject may apply for an order directing an investigation into an alleged combine, the application to be accompanied by a sworn statement.

The Chief Commissioner may of his own motion make an order for an investigation if satisfied that there are reasonable grounds for such action.

When the Board orders an offender to desist action which is considered improper, he must do so. If he fails to obey the order of the Board, he shall be guilty of an indictable offence and shall be liable to a penalty not exceeding $1,000 and costs per day, or to imprisonment for a term not exceeding two years.

In case an owner or holder of a patent issued under the Patent Act uses his right to restrain trade unduly, proceedings may be taken to secure a judgment to revoke the patent.

The Board also has the right to determine what is considered a fair profit upon investigation. When an investigation shows to the satisfaction of the Governor-in-Council that the making of unfair profits on any necessity of life is facilitated by the customs tariff, the Governor-in-Council may direct that such articles be admitted into Canada free of duty. The Board may require the production of books, records and other papers, and may order compulsory attendance of witnesses.

The Board of Commerce is to consist of three Commissioners appointed by the Governor-in-Council, one of them to be Chief Commissioner. The Board is to be a court of record and will have an official seal. Two Commissioners shall form a quorum. An appeal from the position of fact shall lie to the Governor-General. An appeal on a question of law shall lie to the Supreme Court of Canada. The Board does not need to wait until a complaint is lodged with it; it is able to proceed against persons accused of hoarding articles or of combining to enhance prices; or it may refer a case to the Attorney-General of a Province, with the recommendation that criminal proceedings be instituted.

This is extremely drastic legislation. It was rushed through the House of Commons and Senate during the last few days of the session, and consequently the country had practically no time to discuss it. These Acts, however, are now law and must be obeyed by all good citizens. The most important thing about them will be the administration. If they are administered sanely there can be no great objection to such legislation, especially if it will have any real effect on the high cost of living. If the *personnel* of the Board of Commerce is made up of men who have had no business experience, or who are visionaries and theorists, the harm they can do to business is almost incalculable.

Mr. Thomas Findley and the Farmers

"LET any number of you get cattle in the fall and sell them in the spring, and some will make more profit than others," said Mr. Thomas Findley, President of the Massey-Harris Company, to the Huron County farmers at the U.F.O. picnic near Goderich, Ontario, on July 4th.

"It is a mistake to attack profit-making wherever it appears," continued Mr. Findley, "because we hear only of the successful companies and not of the unsuccessful or inefficient companies. There is too much rot talked about profit. It is a factor in the very success of companies in which the public shares too, because by success and competition prices are brought down. It is unfair to inflame the public upon the question of profit, and very often it will be found that those who do it are quite willing that should be the only result for the notoriety it brings. I say

it is dishonest, and want to protest against it in the interests of the industry of the country."

Mr. Findley, dealing with the tariff in regard to agricultural implements, said: "We have got to have revenue, and in my belief the easiest way to get the great bulk of revenue is through the customs tariff."

According to press reports, Mr. Findley was given a great reception.

Most of the farmers of Ontario are sound business men. They know the difference between good and bad management in their own business. The farmer who is a good manager makes good profits; the farmer who is a poor manager does not make any. In tariff matters the great majority of Ontario farmers have been strong advocates of adequate protection for the last forty years. A minority of theorists make considerable noise in advocating free trade, but when the votes are counted the solid sense of the country districts is found behind the national policy.

The Royal Commission on Industrial Relations

THE report of the Royal Commission on Industrial Relations has been published, and arrangements have been made by this Association to have it distributed to all its members. The report consists of a majority report signed by the following Commissioners: T. G. Mathers (Chairman), Carl Riordon, Charles R. Harrison, Tom Moore, and John W. Bruce.

The majority report recommends that legislation be enacted to provide for:

(*a*) Fixing of a minimum wage, especially for women, girls, and unskilled labor;
(*b*) Maximum work-day of eight hours and weekly rest of not less than twenty-four hours.

The majority also recommends immediate inquiry by expert boards into the following subjects, with a view to early legislation:

(*a*) State insurance against unemployment, sickness, invalidity, and old age;
(*b*) Proportional representation.

The majority report also recommends that suitable action be taken by the Government to:

(*a*) Regulate public works to relieve unemployment;
(*b*) Help the building of workers' homes;
(*c*) Establish a bureau for promoting industrial councils;
(*d*) Restore fullest liberty of freedom of speech and press.

Other general recommendations are:

(*a*) That trade unions should be recognized and employees granted the right to organize;
(*b*) The payment of a living wage;
(*c*) Collective bargaining;
(*d*) Extension of equal opportunities in education;
(*e*) Steps towards the establishment of Joint Plant and Industrial Councils;
(*f*) That the findings of the Commission be put into effect in all work controlled by the Government where the principles of democratic management can be applied.

Commissioners Senator Smeaton White and Frank Pauze dissented from the finding of the majority and submitted a minority report. The minority report recommends the encouragement of Industrial Joint Councils as established in some large manufacturing concerns in Canada, and also that, where Industrial Councils are established, employers and employees be urged to institute forms of co-operative insurance or other provision for pensions to long-term employees, sick or invalided. The minority report recommends that the petition of the mine operators of Alberta for the establishment of a local court, where disputes might be referred without loss of time, be considered. The minority report did not favor proportional representation which means, according to the evidence of witnesses appearing before the Commission, that Parliament should be elected in three parts, one-third representing labor, one-third representing agriculture, and the remaining third representing arts, science, professional and other elements of the population. The minority report also recommends that before the Government commits itself to legislation establishing old-age pensions and unemployment insurance, the effect of such legislation upon the ambition and efforts of individual workers should be considered. The minority Commissioners do not believe that the entire Whitley Plan is suitable for Canada, owing to the fact that our industries are dispersed over a very large area, and consequently cannot be grouped for administrative purposes.

"There does not seem to be organization of employers on the same lines as organization of employees," says the minority report. "A number of organizations exist among employers, but generally these organizations are for the purpose of selling or the exchange of views as regards general matters affecting the welfare of their plants. From evidence given before this Commission, and as far as we could learn from inquiry, employers had no organizations for the purpose of enforcing uniform scales of wages or other conditions in their plants to offset the organizations of employees. If it is the intention of the Government to encourage organization of trade unions, organization of employers should also be encouraged, that both parties may meet with at least, comparatively speaking, equal comprehensiveness."

The minority report also believes that piece-work under certain conditions is beneficial to employees, especially when they are allowed to take it to their homes.

"We are pleased to report," say the minority Commissioners, "that the behavior of the returned soldier, individually or as a class, has not been a cause of complaint before this Commission."

Both reports speak optimistically of the resources and future of the country. The majority report says: "Your Commissioners desire to say that they have had a unique opportunity of observing manufacturing, mining and agricultural resources of this country. They were impressed by the variety, magnitude, and character of many of the agricultural and industrial plants visited, and by the enterprise displayed in their operation. What is required to make the Dominion great and prosperous, and its population contented and happy, is a spirit of co-operation on fair and equitable lines among all classes."

On the same subject the minority report says: "The variety and extent of industries in Canada has been a matter of surprise to your Commissioners, and it is with satisfaction that we note many of those industries are of new creation during the last few years, while many others have enlarged their plants to fill the demands for their goods."

1919 CONVENTION PROCEEDINGS

In the following pages readers of INDUSTRIAL CANADA will find a full report of the proceedings at the Annual Meeting of the Association held in Toronto on June 10, 11 and 12, 1919. This has been arranged in the order in which the various items of business came up for consideration, but for the greater convenience of our readers, and for easy reference purposes, the following index is here inserted :

WHERE TO FIND

A — PAGE

Alberta's Industrial Development 222
Alien Enemies, attitude towards 170
Amendments to by-laws, explained 207
Association Policies 171

B

Bankruptcy Bill 178
Branches, progress of 151
Brett, Dr. R. C., Speech at Banquet 224
Brown, M. A., Speech at Banquet 222
Bulman, W. J., presidential address 166
" " vote of thanks to 208

C

Committees, New 155
" chairmen of new 199
Confidence in management, vote of 163
Company licensing laws 177, 180

D

Departments, work of 150
Divisions, formation of 154

E

Employees, number of 151
Executive Committee's Report 153

F

Fees, increase in 153, 156, 192
Financial Statement 164
Fire Prevention 174
Freight Rates and Classification 185

G

General Manager's Report 150
Good, W. C., Speech at Banquet 218
Government Ownership 184, 211
Grain Growers, Conference with 154, 160, 225

H

Harris, Lloyd, address 200
" " Speech at Banquet 212
Howard, T. P., elected president 208

I

Industrial Canada, work of 154
" " statement 164
Insurance Committee Report 173
Industrial Development of West 222
Industrial Relations, resolution on 209
" " discussed 218

L

Labor Legislation, resolution on 209
Labor Problems 154, 166
Labor Unrest, causes of 214
Legislation Committee Report 177
Lyons Fair 155

M

Maclean, Col. J. B., reply to S. R. Parsons..... 161
Membership Committee Report 192
Metric System, resolution on 211
Murray, G. W., resignation of 154

N

Nicholson, G. B., Speech at Banquet 214

O

Ontario Insurance Commission 173, 179
Ottawa Office 151, 156

P

Parsons, S. R., question of privilege 157
Preferential Tariffs 196
President's Address 166
Privilege, question of, raised 157

R

Railway Board, jurisdiction of 191
Resolutions, passed 209
" discussion of 211
Robson, Mr., on relations with West..... 225

T

Tariff, comments on 169, 218
Tariff Committee Report 195
Tariff, resolutions on 210
Technical Education, resolution on 210
Tractors, Duty on 198, 210, 211
Trade Index 154
Trade Sections 150
Transportation Committee Report 184

W

Walsh, J. E., manager's report 150
Winnipeg Strike 166
Workmen's Compensation 178, 182

A Survey of the Association's Administration

What the Various Departments and Branches have Accomplished during the Year —Growth of the Membership—Changes Among the Officers—Opening of the Ottawa Office—Formation of Divisions and Establishment of New Branches

By J. E. WALSH

General Manager, Canadian Manufacturers Association

IN this report it is proposed to give a survey of the administration of the Association during the past year, with brief references to staff changes and to the most important activities of the departments and branches.

Transportation Department

On my appointment as General Manager of the Association, by approval of the Executive Committee, Mr. S. B. Brown, who has been in the service of the Association since 1912, and is familiar with the policies of the Association, was placed in charge of the Transportation Department. It was arranged, however, that I should continue to exercise special supervision over transportation matters, and appear at all sittings of the Railway Commission.

During the year the Department has dealt with a large number of matters, the most important of which are: Steamship Service, Ocean Rates, General Increase of 25 per cent. in Freight Rates, Milling-in-Transit, Stop-off Charge on Lumber, Demurrage, Switching, Weighing, Siding Agreements, Express Rates, Classification, Telephone Rates, Credit Arrangements.

It is worthy of mention that the Department handled claims amounting to $40,514.22 during the year, of which $11,850.73 was collected, and $18,812.75 is still under negotiation.

At the request of the Pulp and Paper Association, a traffic officer has been located at the head office and works in co-operation with our Transportation Department. His salary is paid by the Pulp and Paper Association.

Tariff Department

The Tariff Department has passed through an especially heavy year, owing to the extra work created by war embargoes, proposed Imperial preferential trade, and the agitation for lower tariffs.

As it has been announced that a Government enquiry into the tariff will be made shortly, and that all those interested will be asked to state their views in regard to tariff legislation, it is evident that the Tariff Department will have to undertake an immense amount of additional work and responsibility. The Executive Council has already authorized the engagement of an assistant for the Department, as soon as a suitable man can be found. It is proposed to make a very thorough survey and investigation into the tariff schedules, to ensure that the views of manufacturers will be brought to the attention of the investigating commission.

Commercial Intelligence

Following the instructions of the Executive Committee, work on the 1919 edition of the *Canadian Trade Index* is well under way. As this book is only published once every three years, the task of bringing it up-to-date is a heavy one, especially on this occasion, owing to the numerous changes in manufacturing companies and the lists of their products, as a result of the war.

The editorial work is under the supervision of Mr. A. Marshall, Manager of the Commercial Intelligence Department, while the necessary advertising is being secured by Mr. D. B. Gillies, Advertising Manager of INDUSTRIAL CANADA. It can be now confidently stated that the 1919 edition will be larger than any previous edition; that it will contain a more complete classification of Canadian products; that it will be given wider distribution, and that it will be published at a profit to the Association.

The Commercial Intelligence Department has also done a great deal of work in co-operation with the Canadian Trade Commission and in distributing items of commercial intelligence among members. It is advisable to appoint a special standing committee to supervise the work of this Department, which has increased greatly in importance during the last few years.

Trade Sections Department

There are now 35 trade sections of the Association; seventeen of these may be considered as active, and meet more or less frequently in the Association's offices; four of them are inactive and the remaining fourteen have separate staffs and officers and carry on their work almost entirely independent of this Association.

It was decided to create a Trade Sections Department for the purpose of encouraging the organization and development of trade sections and keeping these sections in close touch with the departments of the Association. Mr. J. M. McIntosh, who has been in the service of the Association since 1912, has been appointed manager, and will devote his entire time to this work.

Publishing

Considerable attention has been given to the necessity of presenting to the public the views of the Association on matters of great importance. When necessary, during the past year, statements have been prepared, approved by a competent committee, and published. The appointment of a special committee, known as the "Publishing Committee," will be recommended at the last business session. This Committee would supervise any article, statement or publication issued in the name of the Association.

Legal Department

The Legal Department of the Association has been revived and placed under Mr. H. Macdonald, Secretary of the Department. It is proposed that all correspondence on legal matters should be addressed to the head office and should be placed before the Legislation Committee. When necessary, instructions will be issued to properly qualified counsel, to appear

in the courts and before Parliamentary committees, or sittings of special commissions.

During the year the Secretary of the Legal Department has examined the Bills introduced in the various Legislatures, federal and provincial, during last session, as follows: Senate 20, Commons 60, Ontario 180, Manitoba 20, Saskatchewan 110, British Columbia 78; total, 468 Bills.

Ottawa Office

The establishment of the Ottawa office meets a long-felt want of the Association. Heretofore, it was necessary either to make special trips to Ottawa to secure information from various Government Departments, or to depend upon correspondence, which was not always satisfactory.

Mr. G. M. Murray, former General Secretary, opened the office and has been in charge of it from the beginning. An assistant, Mr. E. Blake Robertson, formerly Assistant Superintendent of the Department of Immigration, has been engaged; and, speaking from an administrative standpoint only, the Ottawa office has been of the greatest possible assistance to the head office, and there is every reason to believe that it will become increasingly valuable in the future.

Insurance Department

Willis, Faber & Co. of Ontario, Limited, are responsible for the Insurance Department of the Association. This Department was consulted last year by 190 members, and services were rendered on 294 occasions.

General Secretary

Mr. J. T. Stirrett, who has been in the employ of the Association since 1912, was appointed General Secretary in February last. The General Secretary is in charge of the secretarial work of the Association.

Travelling Representatives

The appointment of travelling representatives of the Association has been considered several times in the past, but abandoned owing to the lack of revenue. It would be advisable to have a representative travelling constantly through Eastern Canada, and another through Western Canada, if the necessary funds can be provided. These representatives would keep in personal touch with the members, try to secure new members, collect arrears in membership fees, receive, adjust or forward complaints, collect general information for the departments, and make weekly reports to the head office. It is estimated that the cost of maintaining travelling representatives could be largely counterbalanced by the increase in revenue from the fees of new members.

Employees on Staff

The number of employees on the staff of the Association at April 30th, 1918, was thirty-four, representing at that time a yearly salary list of $60,019.80; owing to additions of six employees in the past year to the permanent staff, it now stands at forty. Fourteen of this number are employed outside of head office. The staff at the present time, including temporary help on the *Canadian Trade Index*, consists of forty-four, representing an annual salary list of $81,804.00.

Proposed Divisions

The proposal of Council, which will be given in detail in the Executive Committee report, to group the Association for administrative purposes into five divisions should lessen the congestion of work at the head office and stimulate local interest regarding industrial matters.

New Branches

During the year new branches have been formed at Sherbrooke, Quebec; Brantford, Ontario; Niagara Falls, Ontario; and Victoria, British Columbia. In every case, the formation of new branches resulted in a substantial increase in the membership of the Association. The organizing spirits who contributed chiefly to these gratifying results were: Mr. Geo. D. McKinnon, Sherbrooke; Mr. C. A. Waterous, Brantford; Mr. M. R. Meldrum, Niagara Falls, and Mr. S. Tomlin, Vancouver.



J. E. WALSH
General Manager, Canadian Manufacturers Association

Membership

During the year, a steady membership campaign has been maintained, with the result that the net gain in membership is 141, making the total membership of the Association now 3,530. It is estimated that there are about 1,500 manufacturers eligible for membership, who have not yet joined the Association. For many years membership work has been directed against this non-members' list. It is now being revised with the assistance of the branch secretaries, and it is proposed to ask the secretaries to devote special attention to securing new members in their territory. The most effective membership work is done by present members, who are constantly meeting non-members in business, and it is respectfully suggested that it should be the aim of manufacturers in any community to see that all manufacturers in that community are members of this Association, because, under the present situation, members pay to secure results which benefit all manufacturers whether members or not.

Toronto Branch

The membership of the Toronto branch shows a net increase of fourteen for the year, making a present total of 833. During the year the Branch Executive held eight regular and twenty-two special meetings to deal with the extraordinary amount of work which the unsettled conditions created. In addition to the usual work arising out of departmental activities and local conditions, the branch organized

a special meeting of Ontario manufacturers to consider the creation of an Ontario division, a proposal which was unanimously endorsed.

Montreal Branch

The membership of the branch is now 604, showing a net increase for the year of thirty-four. Only ten resignations were received during the year and all were due to discontinuance of business. The Legislation Committee was particularly active. Under the general heading of Industrial Reconstruction and Development, many problems received close attention from all the branch committees. Other subjects receiving attention were: Publicity, technical education, transportation and industrial research. The proposal to organize a Quebec division was endorsed and arrangements are tentatively made to proceed with the necessary organization if the proposal secures the approval of this meeting.

Prairie Provinces Branch

The Prairie Provinces branch, comprising Manitoba, Saskatchewan and Alberta, has made remarkable progress during recent years. The membership now stands at 498, and local sub-branches have been established in the principal industrial communities throughout the territory. Unusual difficulties were encountered this year. The outbreak which came to a head three weeks ago in Winnipeg had been gathering momentum since last fall, and the energies of the branch executive and members were constantly exerted to combat the sinister influences which had been at work long before their presence was realized by the public.

In spite of the demands made upon their time by this problem, the branch devoted considerable attention to transportation, research, workmen's compensation, and other subjects with satisfactory results.

It is of the utmost importance that the organization of the Association should be extended and strengthened in the three Prairie provinces, where some of the most difficult problems originate, and if this is done thoroughly and wisely, I am certain that the results will justify such action.

Hamilton Branch

The membership of the Hamilton branch is now 215. During the year the branch devoted special attention to labor questions, the tariff, industrial research, export trade and technical education.

British Columbia Branch

Excellent progress is reported from British Columbia. A year ago our membership in that province was 59. During the past year fifty-five manufacturers, representing practically every class of industry, have been added to the membership of the Association, which has now reached a total of 114 for the province. Two months ago the British Columbia secretary organized the Victoria and Vancouver Island section of the Association, with good results to our membership.

During the year the following subjects were discussed and the necessary action taken: railway construction, freight credits, harbor development, freight classification, steamship service, shipbuilding, workmen's compensation, technical education, and industrial conditions.

Through the efforts of our British Columbia organization, the prestige and influence of the Association is steadily increasing throughout the province.

Maritime Provinces Branch

The membership of the Maritime Provinces' branch increased last year by about 25 per cent. Among the subjects dealt with were: The promotion of research guilds, the prevention of fire-waste, the development of water power, industrial education, provincial subsidies, and industrial relations. The Maritime Canned Fish Section and the Maritime Box and Box Shook Section were organized. An Accident Prevention Association was formed in Nova Scotia, and a similar organization is being considered for New Brunswick.

Opportunities in the Orient

On page 280 of this issue readers will find an article dealing with trade opportunities in the Orient, which is worth the attention of those desirous of engaging in export trade. If Canadian manufacturers are alive to the possibilities, Canada can do business across the Pacific. But manufacturers must be prepared to meet world competition, which, of course, means close figuring. The volume is huge, orders are large, but profits are small. Every care must be used in executing orders "to the letter," and packing must have as great care as the manufacture of the goods. If Canadian manufacturers are not willing to devote this care and thought to the business, they should not attempt it, as their indifference will only injure the standing of Canada.

Conference of Branch Secretaries

It is essential that there should be the closest co-operation between the branch secretaries and the head office. Last year a conference of branch secretaries was held at the head office, following the annual convention, and a similar conference will be held again this year. About two months ago the secretaries were notified that they would be called to head office for the convention and that they would remain a week afterwards. They were also instructed to prepare a budget of enquiries and any matters which they wished to discuss. At the same time the heads of departments have prepared lists of subjects which they wish to discuss with the secretaries. When the secretaries return to their respective offices, they will lay these suggestions and plans before their respective executive committees for consideration and the necessary action.

Under orders of council, instructions and suggestions were sent to branches in regard to dealing with the repatriation of returned soldiers, the formation of joint standing labor committees, the tariff agitation, the sittings of the Royal Commission on Industrial Relations, and a number of other subjects. It is gratifying to report that the team-work between the branches and the head office was of a most satisfactory character.

During the coming year, considerable intensive organization should be undertaken. Details are being worked out and will be presented later to competent committees for approval.

All of which is respectfully submitted,

J. E. WALSH,
General Manager.

Report Adopted

The adoption of the General Manager's report was moved by Mr. T. P. Howard, of Montreal; seconded by Mr. J. F. Ellis, of Toronto. The President put the motion which, on a vote having been taken, was carried and the General Manager's report declared adopted. There was no discussion on the report.

Executive Committee Outlines Its Work

Need for Increased Revenue is Explained—Proposed Formation of Divisions—Conference with Western Grain Growers—The Handling of Labor Problems—Proposals of the Committee Endorsed by the Executive Council During the Year

Report Presented by

J. E. WALSH

General Manager, Canadian Manufacturers' Association

DURING the past year your Committee have been confronted with unexpected financial problems, which taxed the resourses of the Association, and, in dealing with these problems, it was assumed that their first duty was to provide service to the Association.

Your Committee report a gross deficit this year of $13,520.44, representing the difference between the total expenditures for the year, amounting to $97,987.96, and the total income from membership fees, amounting to $84,467.52. This gross deficit is reduced by the profits from INDUSTRIAL CANADA, amounting to $8,636.62, the interest on investments of $3,132.02, and the sale of the "Canadian Trade Index," $189.46, making a total of $11,958.10, and leaving net deficit for the year of $1,562.34.

Increase in Fees.

Commencing early this year, the Association was placed under an obligation to provide for increased expenditures, covering additions to the staff and other general expenses incurred by enlarging the staff. These alterations consisted chiefly of the opening of an Ottawa Office, appointment of a General Secretary, a Manager of the Trade Sections Department, an Assistant in the Transportation Department, extra stenographic help, and an increase of postage, stationery and travelling charges. While we did not feel the full effect of this additional expenditure in last year's business, the increase was sufficient to account for a loss of $1,562.34. Fortunately it was not necessary to dispose of any of the Association's securities last year, so the balance in the investment account remains the same as in the previous year. But early this year your Committee saw that if the usefulness of the Association was not to be seriously curtailed, it would be necessary to secure more revenue through an increase in the membership fees. A schedule of proposed increases, totalling $43,365 per annum, was prepared and submitted to the Membership Committee on February 17th. This Committee considered the schedule, and reported to the Executive Committee that if the need for revenue was apparent, the apportionment of the fees seemed to be fair and reasonable. The Executive Committee gave the matter further consideration on February 27th. As they felt it would be advisable to have the opinion of members from various communities, a special committee of sixteen was appointed, consisting of members drawn from Toronto, Hamilton, Montreal, Winnipeg, Guelph, Peterborough, London, Woodstock and Kingston. This Committee considered the schedule and made alterations which had the effect of making a further increase of $9,455, making a total proposed increase of $52,820. The amount of this increase is subject to reduction, as allowance must be made for loss of revenue due to arrears and resignations. The report of the Special Committee was adopted unanimously and forwarded to the Executive Committee for consideration. It was endorsed by the Executive Committee on March 27th, approved by the Executive Council on the same date, and directed to be forwarded to the Annual Meeting for final decision. Your Committee have gone into the stages in the proceedings to show that the proposal to increase the fees was given the most careful consideration before being submitted to this meeting.

The following shows the new schedule recommended for adoption by Council at the Annual Meeting, and the schedule now in operation:

Firms.	No. of Employees.	Present Fee.	Proposed Fee.	Increase in Revenue.
405.....	Addtl. Rep.	$10.00	$10.00	None.
480.....	Up to 9	10.00	15.00	$2,400
950.....	10 to 29	15.00	25.00	9,500
683.....	30 to 59	20.00	35.00	10,245
348.....	60 to 99	35.00	50.00	5,220
240.....	100 to 149	50.00	75.00	6,000
179.....	150 to 299	75.00	120.00	8,055
77.....	300 to 499	100.00	150.00	3,850
45.....	500 to 999	150.00	200.00	2,250
11.....	1,000 to 1,999	200.00	300.00	1,100
21.....	Over 2,000	200.00	400.00	4,200
3439				$52,820

Yearly revenue from membership fees under proposed increased schedule	$137,414
Yearly revenue from membership fees at present	84,594
Proposed increase	$52,820

In dealing with the proposed increases, we may consider the fees charged by associations of manufacturers similar to our own. The British Federation of Industries, which includes practically all the important manufacturing industries in the United Kingdom, exacts a single uniform fee from its members of £100 per annum. The National Association of Manufacturers of the United States, a body which corresponds largely to our own, charges a single uniform fee of $50.00 per annum, and the same fee is charged by the Illinois Association of Manufacturers, which includes the City of Chicago. Moreover, the American associations make extra charges for special services. According to the present schedule, the average fee paid per member of the Canadian Manufacturers Association is $23.00 per annum. Under the proposed schedule, the average annual fee per member would be $39.00. Your Committee believe that, while our average fee is low in comparison with these other associations, we could not afford to follow their example and adopt a single uniform fee, owing to the almost inevitable loss of membership which such a decision on your part would create. Twenty-six per cent. of our members employ fewer than 10 people, and pay only $10.00 per annum in fees; 28 per cent. employ fewer than 30 people, paying only $15.00 per annum; and 20 per cent. employ fewer than 60 people, paying $20.00 per annum. Consequently, as 74 per cent. of our total membership pay not more than $20.00 in annual fees, and as many of them would probably resign if asked to pay a uniform fee, which would vary from twice to four times their present fee, we have no option but to retain our principle of grading fees according to the number of employees engaged.

The Association is now beginning a period of intensive organization. During the past seventeen years a framework has been created from coast to coast, with branches covering all the Provinces; now this framework needs a certain amount

of enlargement and consolidation in order to achieve its maximum effectiveness.

Your Committee feel that the Association is being constantly hampered by lack of revenue, and that the services rendered by the various departments and branches could be greatly increased by the judicious expenditure of additional funds. It is believed that there is a fairly general feeling throughout the membership, that our fees have never been commensurate with the importance of the Association or with the value of the service rendered.

Industrial Canada

It is a pleasure to report another successful year for INDUSTRIAL CANADA, the financial statement showing a net revenue of $8,636.62. This is particularly gratifying from the fact that at the beginning of the Association year, the heavy increase in the cost of printing more than wiped out the prospective profits for this year. A readjustment of the advertising rates and an increased volume of advertising, has resulted in the present showing, being an increase of $1,798.11 over last year's surplus.

At the same time, a number of new editorial features have been instituted, which have improved the service and interest in the publication. These include the Department of "News and Views of the Association," and regular monthly reports from the Branches. The chief function of INDUSTRIAL CANADA is to keep the members in close touch with the activities of the Branches as well as the Head Office of the Association.

A small committee, consisting of Messrs. J. F. Stewart, chairman; J. S. McKinnon, J. F. Ellis, J. Allan Ross and J. F. McKay, was nominated by the Executive to advise with the editor and advertising manager on INDUSTRIAL CANADA matters. The meetings of this committee, which were also attended by the members of the Head Office staff, have been productive of valuable suggestions as to articles and matters of policy, and have been of great service to INDUSTRIAL CANADA throughout the year.

We have reason to be proud of INDUSTRIAL CANADA, not only on account of its growing editorial interest and fine typographical appearance, but also on account of the splendid volume of advertising of goods made in Canada, which it carries, and this occasion is seized to suggest to each member that he can do a good service to himself, his fellow manufacturers, and Canadian industry generally, if after reading each number carefully he will pass it on to his purchasing agent with instructions to consult its advertising pages, and wherever available to buy "Made-in-Canada" goods.

Canadian Trade Index

Your Committee decided to publish the CANADIAN TRADE INDEX this summer, in an edition of at least 8,500 copies, for distribution among the purchasing departments in Canada and abroad. Arrangements have been made with the Dominion Government to take at least 1,000 copies for foreign distribution. Copies sent abroad will contain sections printed in French, Spanish and possibly Italian. The suggestion has been made to your Committee that the value of the CANADIAN TRADE INDEX is so highly appreciated, that it would be advisable on the part of the Association to arrange that it should be published annually. While the financial difficulties at present are such that your Committee do not care to recommend annual publication, the suggestion is worthy of future consideration.

Proposed Formation of Divisions

A proposal will be submitted to you at the last business session to sanction the grouping of the Association for administrative purposes into five Divisions, namely: The Maritime Division, consisting of the Maritime Provinces; the Quebec Divison, consisting of the Province of Quebec; the Ontario Division, consisting of the Province of Ontario; the Prairie Division, consisting of the Provinces of Manitoba, Saskatchewan and Alberta; and the Pacific Division, consisting of the Province of British Columbia. The formation of branches within the territory covered by such divisions should be encouraged. There is no doubt that the formation of branches in all the chief industrial cities will do much, not only to increase the membership of the Association, but also to stimulate thought on industrial matters.

Proposed Conference with Western Grain Growers

Your Committee accepted an invitation from the Canadian Council of Agriculture to hold a joint conference of farmers and manufacturers in Winnipeg during October or November, 1919. Tentative arrangements were made, but these were cancelled on receipt of a telegram from the Canadian Council of Agriculture suggesting abandonment of the proposed conference in Winnipeg, pending the visit of Western Agricultural representatives to Eastern Canada.

Resignation of Mr. G. M. Murray

At its meeting on November 26th, 1918, your Committee received with great regret the resignation of Mr. G. M. Murray, who has been in the employ of the Association since 1904. Mr. Murray stated that, while sorry to leave the Association, he had an excellent opportunity to engage in private business, and wished to take advantage of it. The resignation was accepted, but Mr. Murray was induced to remain with the Association until the close of the parliamentary session at Ottawa, where he was placed in charge of the new office of the Association. Mr. J. E. Walsh was appointed successor to Mr. Murray, but your Committee decided to change the title of the Chief Executive Adviser to "General Manager." The General Manager will continue to exercise special supervision over the Transportation Department.

Labor Problems

Your Committee has given much attention during the year to the problems connected with industrial relations. The principles of the Labor War Policy, formulated by the Minister of Labor, were favorably considered and approval was recommended in so far as these principles were applicable to industrial conditions. When the Labor Board of Appeal was created, two representatives of the manufacturers were appointed, and continued to act until the Board was abolished by the Government when the special conditions arising out of the war were altered, and it was considered that the work of the Board had been completed.

In February last the various Branches were asked to encourage the formation of joint standing committees of employers and employees in the manufacturing towns and cities throughout Canada. Action was taken in many localities, and there is no doubt that many difficulties were solved and many grievances settled by common discussion.

When the Royal Commission on Industrial Relations was appointed, Council decided that the Association would make no official statement on a subject possessing so many ramifications, but the suggestion was made to local members in territory adjacent to the points where sittings were to be held, that they should appear before the Commission and express their personal views. These suggestions were carried out with the result that manufacturers have appeared at all the sittings and have given evidence that, in addition to recording

valuable information, demonstrates the great amount of thought and energy devoted to this subject by employers throughout Canada.

Nominations and Resolutions

Your Committee made special efforts to ensure that the Committee on Nominations and Resolutions, of which all your Committee are ex-officio members, should give particular attention to the necessity for ensuring that nominations for officers and members of committees should not only provide territorial representation, but should also secure manufacturers who are in a position to give time and thought to the duties of their respective offices. To this end three notices were sent out to the members of the Nominations and Resolutions Committee in addition to the general notice to all members.

The Lyons Fair

Mr. W. P. Hughes, Secretary of the Montreal Branch, represented the Association at the Fair held at Lyons, France, and also gave assistance to members who exhibited their products. The following were among the exhibitors: Great Britain, the United States, Australia, France, and the Canadian Section, consisting of exhibits of the Canadian Government, products of fifty-five Canadian manufacturing firms, the Canadian Pacific Railway, and the Canadian Government Railways. Of the Canadian industrial exhibits, 38 were from Ontario firms, 14 from Quebec, 2 from Nova Scotia, and 1 from New Brunswick.

It is generally admitted that the Canadian exhibit did much to advertise Canada and Canadian products in Europe, while Canadians who attended the Fair obtained information which will be valuable in conducting export trade.



T. P. HOWARD
Phoenix Bridge & Iron Works, Limited, Montreal
President, 1919-1920, Canadian Manufacturers Association

Tariff Agitation

The lower tariff and free trade movement received special consideration. Your Committee discussed the question at regular and special meetings, submitted proposals to Council and took any action which was considered necessary to assist in maintaining fiscal stability in Canada.

European Exhibition Train

The advisability of supporting a proposal to send an exhition train containing exhibits of Canadian products to Europe, was considered at several consecutive meetinngs. Objections raised were the import restrictions now imposed by European countries, and the varying gauges of railways. It was decided, however, that the plan had so much to recommend it as an advertisement for Canada, that it should be referred to the Annual Meeting, when the personal advice of Mr. Lloyd Harris, Chairman of the Canadian Mission in London, would be available.

Trade Commission—China and Japan

A proposal to support the despatch to China and Japan of a Trade Commission, consisting of one representative from each of the Boards of Trade of Montreal, Toronto, Hamilton, Winnipeg and Vancouver and one representative from the Association, was referred to the Boards of Trade mentioned for their consideration, but action is deferred pending receipt of the Boards' decisions.

Questionaire to Members

A questionaire asking for various items of information was prepared and circulated among members because it was considered important that such information should be readily available in the Head Office without the necessity of individual correspondence. The response has been gratifying, many suggestions have been received in regard to the services of the Association and much valuable data will be compiled.

Counsel for Branches

Suggestions from various branches that legal counsel should be retained were considered, but it was decided that proposals to engage counsel should always be submitted to your Committee. It is pointed out that the Legal Department of the Association should be able to furnish adequate legal service to members, particularly as special counsel is always retained to represent the Association in court cases, Parliamentary Enquiries or Commissioners' Sessions.

New Committees

The appointment of three new standing committees, namely: "Industrial Relations," "Publishing," and "Commercial Intelligence," is recommended, and the necessary notices of motion to amend the by-laws have been made accordingly.

Heretofore your Committee have dealt with a great number of subjects, which might properly be considered by the committees named, with the result that our sessions have been unduly prolonged and matters that come more closely within our jurisdiction have not received as much attention as they deserve.

It is proposed that the "Industrial Relations" Committee will make a study of industrial conditions; that the "Publishing" Committee will supervise such publications, articles or statements as are or may be issued by authority of the Association; and that the Commercial Intelligence Committee will supervise the activities of the Commercial Intelligence Department.

Proposals Endorsed

During the year, on the recommendation of your Committee, the Executive Council endorsed, among others, the following proposals:

The removal of war-time restrictions from business.

The establishment of a Central Bureau for scientific research.

The provision of facilities to encourage technical education and industrial training.

The attempt of the Dominion Government to encourage the building of small houses.

The work of the Canadian Engineering Standards Association.

The establishment of Government employment offices.

The continuation of Daylight Saving Legislation.

The proposal of the Canadian Association of Stationary Engineers to secure a higher standard of technical efficiency for stationary engineers.

At the November meeting of the Council, it was moved that a special general meeting be called to consider the advisability of moving the Head Office of the Association to Ottawa. An amendment, which directed that an office be opened in Ottawa immediately, and that the question of transferring the Head Office from Toronto to Ottawa be referred to the next annual general meeting, was carried.

All of which is respectfully submitted.

W. J. BULMAN, *President.*

J. T. STIRRETT, *General Secretary.*

J. E. WALSH, *General Manager.*

Discussion of Report

The motion to adopt the report of the Executive Committee, which was presented and read by the General Manager, was made by Mr. S. R. Parsons, of Toronto, who said:

"In moving the adoption of the report I would like to draw attention to one or two items contained therein. First of all as to the opening of the Ottawa office. I am quite sure that the members of the Association will agree with me that already this move has been thoroughly justified, and in saying that I might also add the hope that we will be able to continue the services of Mr. Murray in that connection. I do not know how far the Committee that has that matter in hand has proceeded, but I am sure that I express the views of all the members of the Association when I say that Mr. Murray in Ottawa can do the Association an enormous amount of good in very many directions.

The Increased Fees

"The next question is as to the proposed increase in membership fees. You will notice, gentlemen, that first of all this proposition passed the Legislative Committee; the next stage was that it passed the Executive Committee; then a committee of 16 drawn from different parts of the country, and later it passed unanimously the Executive Council. I think you will feel, therefore, that this question, which is always very important to us, has received already the consideration which it well deserves before bringing it to your attention. I am quite sure, therefore, that the reasons set forth for the increase in membership fees will appeal to all, and without further discussion that you will be able to accept the findings of these different committees and bodies.

"Now, in the third place, there is a proposal for the formation of divisions. I understand, Mr. President, that that will come up at a later stage of the meeting, so that the adoption of this report does not necessarily mean the adoption of that particular item."

MR. J. S. MCKINNON (Toronto): "I have very great pleasure in seconding the motion which has been so ably presented by Mr. Parsons. The ramifications of the Executive Committee cover a very great deal of work, and you see it has given most close attention to every detail that has come before it. You can hardly realize, gentlemen, the work that comes before the Executive Committee unless you could see one of the agendas that the General Manager presents at those meetings, but I think the work has been most carefully attended to and I trust will meet with your approval."

Open for Debate

THE PRESIDENT: "You have heard the motion to adopt the report and it is now open for debate. We have two or three items in it—the French Exhibition train, the transfer of the Head Office, and the increase of fees that will all have to become subjects of debate. The matter now is in your hands."

MR. DOUGLAS (Hamilton): "I would like to ask a question, and that is, if the adoption of this report means the final adoption of the scale of fees presented therein? I am not raising the question from the standpoint of any objection because I fully approve of it. I wanted to make myself clear on that point. Mr. Murray has suggested to me this must be done by an amendment to the by-law. That was my impression, but I wanted to make myself clear on it."

THE PRESIDENT: "It is coming up at the last meeting under the head of amendments to the by-laws, but this would be the approval of the scale of fees by this meeting."

The question being called for, the President put the motion to adopt the report which, on a vote having been taken, was carried and the report declared adopted.

The Ottawa Office

At this juncture in the proceedings, Mr. S. R. Parsons, of Toronto, rose to speak on a question of privilege. Following his remarks and the discussion thereon, the President referred again to the report of the Executive Committee.

"You all realize," said he, "that in the carrying of this report it commits you to the increased fees, or do you want to debate that further under the amendment to the by-laws?"

MR. HENDERSON (Windsor): "Under the amendment to the by-laws. What about this change of the head office to Ottawa? Will there be a further opportunity to discuss that?"

THE PRESIDENT: "That should be settled by this report, Mr. Henderson; I think that it is adopted by the report. As you all know, the establishment of the Ottawa office was a compromise. It is up to the annual meeting to say whether that compromise meets with their approval. That, I take it, would settle the question."

MR. W. C. COULTER (Toronto): "I should think, unless somebody is prepared to give notice of motion to bring it up, it could not be dealt with at this meeting at all. Unless there is some sentiment in favor of it, it should not be discussed at all."

THE PRESIDENT: "Couldn't we settle it now? If you wish to move in amendment that the head office be left in Toronto, we could settle it now."

MR. T. P. HOWARD: "I would like to move in amendment, to get this thing settled, that, in view of the fact that we have opened an office in Ottawa which meets our requirements, the head office of the Association remain in Toronto."

MR. SHAPLEY (Toronto): "I have much pleasure in seconding that motion."

The question was called for and the President having put the amendment, it was carried unanimously.

Question of Privilege Raised at Convention

Mr. Parsons Made Complaint of an Article Criticizing the Management of the Association and Himself—Reply by Col. J. B. Maclean—Mr. Henderson's Pointed Rejoinder—Vote of Confidence in the Executive and Officers Carried Unanimously

A VERBATIM REPORT

FOLLOWING the adoption of the report of the Executive Committee, Mr. S. R. Parsons asked to be permitted to speak on a question of privilege and, consent having been granted, he spoke as follows:

"Mr. President and gentlemen, I shall take the liberty of referring to an article in *The Financial Post* of last Saturday, June 7th. This article is in the shape of an editorial and is headed, 'Farmers' Advances Ignored by C.M.A.' First of all there is published a copy of a letter from Mr. W. C. Good, in which Mr. Good states, 'Last fall, I believe, through Mr. Parsons, I was invited by the Toronto Branch of the C.M.A. to meet with them and speak to them of the farmers' viewpoint. I consented gladly, and twice a date was fixed, but both times the C.M.A. Secretary wrote, postponing the date, and it looks now as if they are deliberately unwilling that the conference should take place.'

"In referring to that particular matter, let me say, gentlemen, that I happened to be sitting on the same platform with Mr. Good and I suggested to him then—this was a number of months ago—that he come to us at a convenient time for himself and the Association and make known to us his views; that we were always glad to hear from a representative agriculturist in the province. You can quite well understand it is difficult to arrange a meeting on short notice, and, if I mistake not, once we asked Mr. Good to come at a certain time and he was unable to come at that particular time. Is that not correct, Mr. Macdonald?"

MR. MACDONALD: "Yes, that is quite correct."

MR. PARSONS (continuing): "And twice he was asked to come but something interfered with it. Now, we have kept the invitation in mind all along and, instead of inviting him to a meeting of the Toronto branch, we decided a little time ago—long before this article was written of course—to invite him to the meeting of the Association, and Mr. Good speaks to us at the banquet of the Association. That is giving him the most important place he could have in connection with any of our gatherings." (Applause).

Invitation to Mr. Good

"It is possible that Col. Maclean and the *Financial Post* will take the credit of having him asked to our annual banquet. We don't care who gets the credit for it, only we know it came simply through the Association and through no other channel.

"I would like also to read a few words in which the *Financial Post* speaks of Mr. Good as 'a graduate of Toronto University; a very successful farmer, and one of the leaders in the National and Provincial Farm Movement. The *Financial Post* has repeatedly said that the big farmers were, like the big business men, very fair. That they were not unfriendly to Canadian manufacturing or a protective tariff. That the real trouble was that the C.M.A. affairs were in the hands of a few narrow-minded men who had been mismanaging its affairs and misrepresenting its membership, estranging the farmers, the labor unions, the clergy, the returned soldiers; and finally, and quite unnecessarily, within the past month the retail merchants who, more than any others, can make or break the Made in Canada movement.' That is quite a formidable list, gentlemen."

MR. MEADOWS (Toronto): "Nobody pays attention to it."

MR. PARSONS: "We will pay attention to this to-day, for I hope we will have it out to-day. (Quoting) 'The C.M.A. annual meeting is next week. Mr. Good's letter, events of the past year, and particularly present serious conditions, demand an immediate and more drastic development of the plans inaugurated a year ago, for taking the control and direction of this great organization out of the hands of the Toronto clique and the making of it once more a truly national and popular institution. Attendance at this meeting should be a duty of the proprietors and general managers, the most important work of next week.'

"The Old Gang" Puts on Brakes

"'Under pressure a year ago the affairs of the Association were put in the hands of a General Manager, but almost at once the old gang put the brakes upon him. It was explained to him that he was selected because he was an expert on transportation' (that will be news to a good many of us) 'which was not at all what the members generally intended. He has greatly improved the Head Office attitude to the members and the public, but he has not taken the big leadership that was expected. This has been generously, though we fear very unwisely, assumed by Mr. Parsons, the late President. His utterances on labor, agriculture, the churches, and retail profiteering have given much offence as they are regarded as the official views—which they are decidedly not—they have created an antagonism against the manufacturers when all classes should be working with them to take advantage of the greatest opportunity this country has ever had. We have already let much of it go past us; no more time should be lost over petty things. The public should be given clearly to understand that only the President or General Manager has any authority to express the views of the manufacturers of Canada.' . . . . . 'To-day the Association is in the position of having snubbed the farmers.'

"The editorial goes on: 'Recognize all *bona fide* trade unions. Invite at once their leaders to meetings of the Association, and their co-operation in the building up of Canadian industry. Later provide for them in the C.M.A. membership. All wage and allied problems should be utterly tabooed in the C.M.A.'

"Gentlemen, I have been a long time connected with the C.M.A. and I never heard a wage question coming up yet.

"'Labor now believes the C.M.A. is their chief enemy. It should be their partner and best friend. Associate or other membership in the big Association will so broaden the outlook of employer and employee that they will understand each other better in the individual trade associations. Go on record against combines and profiteering, which are the greatest source of irritation in Canada to-day.'

"I think I have read enough, gentlemen, to let you understand why I desire to bring up this question. Let me speak for a moment of my personal relationship with Col.

Maclean. During the early part of my year as President of the Association, Col. Maclean came to me and he said he had been most unfairly treated by Mr. Murray, our General Secretary, and he denounced Mr. Murray in the roundest possible terms on account, he said, of the unfair way in which he had been dealt with. I said to Col. Maclean, 'Col. Maclean, I would be glad if I could bring Mr. Murray and yourself together.' I always feel, gentlemen, that when two men sit down at the table and face each other that their difficulties mostly vanish and all that miserable little hard feeling which may be in the mind of either one or both of them vanishes when they come to understand each other, and I spoke to Mr. Murray about this and he said he would be glad to meet Col. Maclean. He said, 'I feel sure that Col. Maclean misunderstands me altogether.' I don't know that Col. Maclean gave his consent to such a meeting; I wouldn't be sure of that at the present time. It is some time ago and my recollection is not quite clear, but I hope that, when I get through speaking, Mr. President, you will allow Col. Maclean the opportunity of speaking, and then I wish the Association to say positively and definitely whether they consider I have taken what action I have and stated what views I have in the interests of the Association. It is only fair to the Association, it is only fair to me, and it is only fair to Col. Maclean to give him every opportunity to say right on the floor of this house what he has to say.

Offered to Withdraw Suit

"Then later Col. Maclean came to me in my office one day—this was just before our annual meeting of a year ago—and he said, 'Mr. Parsons I have come to say to you that, if the Association will apologize, then I will withdraw my suit against the Association and against Mr. Murray, but if they don't apologize,' Col. Maclean said, 'I will take my own ways of dealing with the situation that has arisen.'"

COL. MACLEAN: "Pardon me, I am sorry to interrupt you, that is not true."

MR. PARSONS: "That is the truth. I absolutely declare it is the truth and the whole truth. If Col. Maclean will wait till I get through, he can say anything he pleases. I said to Col. Maclean, 'It is a free country, Col. Maclean, and I suppose that you can do whatever you think best.' Then he went on to denounce Mr. Murray again, and I said, 'Col. Maclean, I will not listen to that while Mr. Murray is not here. If Mr. Murray were here and I could bring you two together and have the two sides out, well and good, but I am not going in this office to hear your side of the case and to have Mr. Murray's side unsaid and no more.' Then Col. Maclean said to me, 'Well ———'; then he went on to argue his case, and I said, 'Now, really, Col. Maclean, I don't know anything about it. Three or four years ago I remember something came up, but I was busy at that time in the Transportation Department and I have forgotten what it was, and if you asked me to-day just what this trouble is which resulted in a lawsuit on your part against the Association I would be compelled to say that I couldn't tell you.' Col. Maclean said, 'Well, now, I have it all here in reprints from the articles in INDUSTRIAL CANADA, and the *Financial Post*.' I think it was the *Financial Post;* however, he had a sheet there and he said, 'It is all contained on this sheet; will you read this?' I said, 'Yes; I am going to Hamilton this afternoon and I will read it on the way up.' He said, 'Will you let me know what you think of it,' I said, 'I certainly will.' And when I got home in the morning I wrote a note to Col. Maclean saying that, having looked over the articles in question, they came to me as for the first time, for I had forgotten what they were all about, and I said, 'Reading them in that way I came to this conclusion that there were things said on both sides that had better be left unsaid; they were said in the heat of a controversy and there was as much said on one side that should not have been said as on the other side.' So I said, 'Col. Maclean, my advice to you is to forget all about it and, if you have any interest in the Association and its work, come along at our annual meeting and let bygones be bygones.'

Occurrences at Montreal

"Now what occurred at the annual meeting? You will remember Col. Maclean had been advocating that the Association institute a new and vigorous policy, with a manager at a salary of $50,000 per year. He also advocated some other changes. I spoke of these from the chair and afterwards you will remember that the matter was simply passed over. I will say this, that at the close of the meeting Col. Maclean came up and offered me his hand. He said, 'I have nothing to complain of at all in what you have said.'

"Then that evening or the next evening—now this is a thing I have been told. What I have been telling you before is from my own personal knowledge—but I was told that same evening or the next evening that several members of our Association were in one of the small rooms of the hotel in Montreal and Col. Maclean was there. These members of the Association who were there said something to Col. Maclean about burying the hatchet and forgetting about the past, and Mr. Murray came along, and I have been told that the friends who were there asked Mr. Murray and Col. Maclean to shake hands. I have been told they did shake hands and that it was said by Col. Maclean before he left the room, that he would speak the next morning to the Association and say that, having had a chat with Mr. Murray and others and understanding more clearly the past of which he complained, that he was now quite satisfied and therefore he would say nothing more about the things which he had been complaining of.

"Now, that is hearsay on my part, but I believe it of course to be true. That can be substantiated. The next morning, however, Col. Maclean had evidently changed his mind and the chip was put on the shoulder again and has remained there ever since.

"In the fourth place, I wish to speak of the Annual Industrial number of the *Financial Post*. I was asked to write an article for that special number, and in view of what Col. Maclean has said in the *Financial Post* about my antagonism to the farmers you will be surprised that the editor asked me to write on this question: 'The relations between the Farmers of the West and the Manufacturers of the East, and also the possibility of bringing them together in conference,' a policy which I had advocated you remember at the annual meeting.

A Display of Bad Taste

"This paper is dated November 2nd, 1918, and in that article which I wrote as carefully as possible, spent some time upon it, I said, 'The Grain Growers accepted the manufacturers' proposal for a conference, the date was left to be decided later on. This then brings us down to the present moment,' and I said everything I possibly could there about the good relationship that should be sustained between these two classes. What was my surprise, however, on getting a copy of that paper, when it was issued, to find that outside of the article that I had written, the President of the Association had been asked to write an article, which he did; Col. Thomas Cantley, of Nova Scotia, had also been asked to write an article, which he did. That was not the surprising part of it; the surprising part of it was this, that in the very same number, after three men connected with the Association and being more or less prominent in the

work of the Association, had taken the trouble to write special articles at the request of the editor—in the very same issue of the paper, the Manufacturers Association was denounced.

"Did you ever come across anything in your life, gentlemen, which was in such bad taste as that? I don't think I was ever so much annoyed in all my life as I was when I read these editorial utterances. He was speaking of a certain party here who had a special experience; I don't know whether it was a case that was real or just a supposititious case. He said 'This man's case is typical of fully 90 per cent. of the manufacturers of Canada to-day. They have no selfish objects to serve. They have no personal ambitions to gain. They are fighting the battle of business with the same sense of duty as our splendid men who are fighting for our freedom at the front are doing to-day. They are content with fair profits. Their reward is in work well done. Yet this most valuable, public-spirited group in all Canada is so unpopular, disliked, mistrusted right across the continent that the condition is handicapping the development of Canadian industry.'

Causes of Unpopularity

"'It is only necessary to note the outcry voiced in the press of the country against the Association that has just been organized by a few public-spirited men to aid in developing Canadian natural resources. Nobody ever deserved a more hearty national welcome. But it is regarded as an adjunct to the Manufacturers Association.' (I suppose he refers to the Canadian reconstruction association.) 'That is sufficient to condemn it without further enquiry.

"'Investigation shows two clauses. The selfish, grasping after monopoly and exorbitant profits by perhaps five per cent. of the manufacturers; and the stupid, pin-headed management that has characterized the Canadian Manufacturers Association for a number of years, estranging friends and antagonizing political and other important groups.

"'The outlook ahead is too serious, and the importance of manufacturing as a factor in aiding us to meet the taxation mounting up to appalling figures is too great to permit the present state of affairs to continue, and it will continue and grow worse until the C.M.A. is put upon a broad basis.'

"Just one more reference: 'Sir John was not long home when the great Methodist Church, inspired by Western delegates, passed a resolution claiming that the only method of overcoming the troubles created by the few combines of the manufacturers and the graft of the public utility agents was public ownership, when we would all work for the same wages and there would be no profits.'

"I just leave that matter with you. These are days when we should be rather restrained in our language, and it is hard to be restrained when three manufacturers are asked to write for that particular number and the Association is assailed in the way in which it is there.

A Question of Advertising

"There is another matter to which I would like to refer. On April 16th of this year I got a letter, a long letter, and a splendidly written letter from *Maclean's Magazine*, published by the Maclean Publishing Company, asking that the C.M.A. use the columns of *Maclean's Magazine* for publishing their propaganda. I shall not read the letter, it is too long. As I say, it is an excellent letter, one of the best written letters that I ever received. My reply to it was as follows:

"Yours of the 10th instant to hand making suggestions as to the C.M.A.'s message reaching the public through *Maclean's*. Business courtesy demands a reply to your forceful letter. I would, therefore, like to point out that, although I have no personal animosities whatever, yet as the Maclean Publishing Company, through one of its organs, constantly seeks to belittle the C.M.A. by stating that its management "has for years been in the hands of a picayune, pin-headed, self-satisfied, Toronto clique" (of whom no doubt I am considered one), "I do not see how they can expect any hearty goodwill or enthusiastic support from the men and organization they thus assail."

"Gentlemen, beyond writing that letter I did nothing. I was not present at the meeting of the Committee when the advertising was arranged for. I had nothing to do with it and have never had anything to do with it. So that whatever I said there was simply my own private view and it was not used by others; my view was not expressed to the Committee, and I knew nothing of their advertising arrangements whatever.

"Now, then, in connection with the annual meeting of the Toronto Branch, our friend, Col. Maclean was there and upon being asked to speak, among other things he dwelt upon his favorite theme and denounced the combines connected with the members of the Association. After Col. Maclean was through, I said I did not think it fair for him to denounce combines in a general way because it reflected on every member of the Association—a most unfair thing; that if Col. Maclean had any knowledge of any combines working in restraint of trade he ought to mention such, and I think you will say, gentlemen, that that was a very fair attitude to take on the question. (Hear, hear.) Col. Maclean got up and he said he knew of a number, but he would only mention one, and that was the Paper Makers' Association. Now, gentlemen, I am not here to speak for the Paper Maker's Association. They have an Association of their own. I understand that it has been under Government investigation for a year or two past. I take it for granted that if they had been operating in restraint of trade that they would have been dealt with according to the laws and regulations governing the Act which they would come under.

Assumption of Leadership

"Now, just a moment or two about the criticism in the editorial which I have read, and I am through. I am sorry to keep you so long, but I feel to-day this matter ought to come up. First of all, as to assumption of leadership by myself. Now, gentlemen, I have been connected with the Association quite a number of years. I have never sought office at the hands of the Association; I have always voted for some one else, never for myself. When the Association has asked me to do certain work I have tried to do it to the very best of my ability. I have never assumed leadership lately or formerly. I have never given a sentence of direction to Mr. Walsh, and he wouldn't take it if I were foolish enough to give it to him, or to anyone else. Whenever I have spoken, I have spoken at a meeting of the Executive Committee, and I have had my say just as others have had. I don't think I have influenced the policy or work of the Association any more than anyone else. I know that I have not, but naturally I have had my say, but never have I assumed leadership.

"Then in regard to labor, it is made to appear that I have antagonized labor. That is a thing, gentlemen, I can't understand. I think I was one of the first members of the Association to advocate a relationship with labor akin to brotherhood. You will remember that at the annual meeting in Montreal one considerable section of my address dealt with the relations between employers and employees, and those utterances of mine were of such a broad character that I don't mind mentioning here, and I think it is only fair to say, that Senator Robertson wrote to the Association and asked them to pass on to me his personal thanks for the way in which I had dealt with that particular question.

(Applause.) Furthermore, I received letters from all classes of people east and west, some of them labor men, and I received expressions of approval from labor men that I met everywhere. One labor leader in Hamilton, the President of the Trades and Labor Council, I understood, wrote me and asked me if I would send him a dozen copies for distribution, so highly did he think of it.

Attitude Towards Labor

"Now, gentlemen, I have never yet upon any platform discussed any other relations than are set forth in my annual address of last year. If those utterances were acceptable to the members of this Association and to other classes, then any utterances I have made on the question of labor must equally have been satisfactory. (Applause.) I know, however, that they were not satisfactory to certain extremists; I never expected they would be. You and I cannot expect them with all the fairness of mind we can command—we cannot expect always to carry all the labor men on our utterances, though we desire to be as fair as we possibly can. My personal relationships I may mention with labor to-day are of the most intimate and satisfactory kind.

"Now, my utterances on certain other matters,—I might say that when I appeared before the Royal Industrial Commission lately, I did not appear simply at my own suggestion. I received a notice from the Association that I was one of those appointed to speak. I was not present when certain members were asked to appear before that Commission, but I was selected as one and therefore my utterances before that Commission were made and I expressed myself before the Commission as making them personally and not as representing the Association, although the Association asked me to go.

"Now, in connection with the question of agriculture, This is an extremely important matter. All sorts of things have been said as to the attitude of the Association towards the farmers. Gentlemen, I know the attitude of this Association has been that of trying to reach the farmers and to talk to them and to desire to understand their many problems and to try and get them to see our problems and then from a common platform, if that possibly could be reached, to suggest what we would do in the way of getting together. This matter is so important, however, and is dealt with in the report of the Executive Committee, that I desire to read just what has occurred, so that there may be no misunderstanding:

Relations with Farmers

"'It will be remembered that at our last annual meeting I proposed, on behalf of the Association, a conference with the Grain Growers in order that we might try and see each other's problems and if possible arrive at a better understanding covering our mutual relationships and interests. Mr. Mackenzie, the secretary of the Council of Agriculture, was present and accepted the proposition which was most enthusiastically carried by the Convention, and negotiations were almost immediately opened up by us and both interests were committed to the project. Subsequently the matter was carried through one channel and another of official circles but finally with no definite result, to our very great disappointment. I am quite sure that the leaders of the Grain Growers will not charge the Canadian Manufacturers with blame on account of the fact that the conference never eventuated.'

"That, I think, is sufficient to say, and I hope the press will have it. I have another copy here so that there cannot be any mistake about our utterances.

"Now, just a moment. I am criticized also because of my attitude towards the churches. Well, gentlemen, let me say this one word, there is an organization in Toronto called 'The men of Methodism.' I was telephoned to by a member of the Executive Committee, himself a minister, and asked if I would not speak on the programme of the General Conference of the Methodist Church. He said, we have already heard the one side from a conference officer. We believe there is another side. We would like to have a business man discuss it, and we are anxious for you to come and the Executive Committee desires that you will be present and give us your views. I accepted that invitation, and I supposed that night I was speaking to a private company of Methodists in my own church. I spoke, gentlemen, only for Methodists and to Methodists and as a Methodist; my remarks had no relationship whatever to other churches. I will say this, however, that my views have been endorsed by manufacturers who have written me from all over the Dominion; from many in Toronto; nearly all my friends have come to me and have gone out of their way to speak favorably of my utterances and to say that they appreciated someone speaking up and declaring against a proposition of the Methodist General Conference which is all focused in these words: 'To demand a transferrance of our entire economic system from a basis of competition and profits to one of co-operation and service.' That was what I objected to and I think every business man in the whole country would object to the same thing. (Applause.) I don't think it is practicable. As a national matter how could we carry it out? We all know, we are not simple enough to misunderstand the situation, unless this country, from the forest and factory and mine and fisheries, and in other ways, produced all it possibly could and sold these products at a profit, we would be bankrupt; nothing else for it at all; the only thing would be a repudiation of our national obligations. As with the nation, so with the individual. As business men, we see the impossibility of carrying out any such programme. What I argued is this, that in every well-conducted business, there is competition, there are profits, there is service. These two groups cannot be antagonistic to each other, and the men who brought forward such a programme don't know what they are talking about, in my opinion. (Applause.)

Retail Profiteering

"Now, just one other item in regard to retail profiteering. I haven't any idea, gentlemen, why I am charged with views which are antagonistic on that particular question, except this—I remember seeing the statement made by the Minister of Labor in the Senate a few weeks ago in which he spoke of the enormous spread between the manufacturer's price and the retailer's selling price. He quoted this statement, that the manufacturers had sold boots or shoes at $6 a pair and they had been retailed at $12 a pair, and either he quoted or someone else did, the enormous spread, much greater in proportion than on that particular item in the cost of dresses. Now it appeared to me, as I am sure it will appear and be viewed by each one of us, that if there is that spread, and it is too great between the manufacturer's costs and the retailer's costs, that there is an avenue of investigation there which should be cleared up.

"But at the same time, gentlemen, I want to be entirely fair to the retail merchants, and what did I do? Last week I received a letter from a member of the Parliamentary Committee on the High Cost of Living asking me if I couldn't give him certain suggestions which perhaps might be helpful. Now then, in connection with retail prices, what did I say? I said this: 'I believe, however, that what you say is entirely correct in reference to the manufacturers getting blamed for the higher costs when in many cases they are not blameworthy; the spread between the manufacturer's selling price and the retail price is too great altogether. I do not know just how much justification there might be

for this; for instance, the retail man who before the war might, with the lower cost then prevailing, have covered his expenses and margin of profit by an advance of say 25 per cent. on the average, may perhaps now with the higher rentals, higher taxes, higher freight rates, higher wages of help, higher cost of coal, and other supplies as well as higher general expenses, have to obtain a margin of double what he used to receive to come out as well.'

"Is there anything unfair about that attitude, gentlemen? Merely a suggestion that the matter be studied.

"Now I think I have occupied your time long enough. I am sorry to have taken up so much time in the discussion of this matter. It appeared to me that it was important enough to deal with it, and, Mr. President, I hope that you will ask Col. Maclean to say anything he has to say, and then it will remain for the Association to say whether they think I am blameworthy in the various ways in which I am charged or whether I have fairly tried to do my duty from time to time towards the Association as best I could. I don't want you to consider me personally at all. If you feel that I have not acted wisely, say so. I can stand the truth at any time, but if you feel that I have done my duty in the interests of Canadian manufacturers and others whom I may represent from time to time, then it remains for you to express yourselves in any way that you may see fit." (Applause.)

THE PRESIDENT: "Now, Col. Maclean, this makes me feel very much at home. Winnipeg has very much this attitude just now. Colonel, will you speak now?"

Col. Maclean's Reply

COL. J. B. MACLEAN: "Mr. President, I am sorry the ex-President didn't let himself out more and say really just what he thought. It was my good fortune—I have always felt it through life—that a great many years ago, when I was a young sub-lieutenant in the barracks, I was under two officers who are spoken of to this day because of their profanity and severity; they gave me hell on parade and immediately we were off parade, they were my best friends. On one occasion an American officer heard me being slanged because my horse had thrown me and one or two other little things that happened, and immediately after parade this particular officer, the late Major Short, was extremely nice to me as I was to him. This American officer said it would never go in their service, and he wondered how I could ever speak to that man again. So that I don't mind how roughly I am handled, as long as it is fair.

"I want to say at the outset that I don't think any man filled the presidential chair of this Association—and I have been connected with it and have been attending their meetings and have been on deputations since the first one was held in 1882, thirty-seven years ago—I was going to say, I don't think any man filled the presidential chair more conscientiously or gave more time to the work of the Association than has Mr. Parsons, and I believe he has always been actuated by the very best of intentions.

"I think he takes a narrow view of the affairs of the Association, of the work of the Association. I am sorry that in his reply to-day, instead of dealing with the petty things, he didn't deal in a broad way and take up the points in a broad way that are being taken up in a broad way by the *Financial Post*. Remember this, the *Financial Post* merely reflects and records and represents the views of the manufacturers as expressed to the editor and representatives by these men. These men are the older members of the Association who have made successes and whose opinions are worth while. I am afraid Mr. Parsons—the only criticism I would have of him is that he takes a very narrow view. Personally, I have a very great opinion of this Association. I believe, and I am working towards, and will continue to work towards, no matter what criticism may come, making this Association what it ought to be, the greatest and most powerful organization, second only in its power to the Parliament of Canada, for the upbuilding of this country.

The Made-in-Canada Campaign

"Now, as to Mr. Parsons' personal criticism of me, I am almost sorry he took that up, but on the other hand, I am glad, because it gives me the opportunity of saying something on that point. First of all, I did not go to Mr. Parsons with a request that he settle any differences between myself and Mr. Murray. I think this afternoon I will give you the correspondence which originated it. There have been no personal differences between myself and Mr. Murray, but INDUSTRIAL CANADA made a personal attack upon me. One of the *Financial Posts* said on one occasion that the Made-in-Canada movement was one of the best things that had ever been done by the Association, but we pointed out that certain members of the Association (if I recollect right that is the effect of it) were taking advantage of Made-in-Canada and were putting it on their goods—putting it on inferior goods and therefore bringing reputable manufacturers into disrepute, and we said that the Made-in-Canada campaign should be carried on, but it should be carried on over the individual names of the manufacturers who would say that any article with that name on could be guaranteed, could be trusted that it was made in Canada.

"Now, I will tell you why that article appeared. One of our editors came in one day and he said he was in a place, and he gave me the name (well-known—he was a member of the Manufacturers Association—it was in 1914), and while he was there a man was present in his place from New York who was selling him an inferior German product, and he arranged with him to put the words 'Made in Canada' on that product, and it was sent out, and we traced it and we found it for sale in a retail store in Toronto afterwards. Again, a retail store applied to a manufacturer, a member of this Association, to make a certain inferior article and put 'Made in Canada' on it; it was to go in a display of Made-in-Canada goods. This man refused to do so. Later another firm, whether they were members or not, produced that article and it was on the floor of this retail store; we saw it there. That was why that article appeared.

Offensive Letters

"Now then, there were rather, I think, offensive letters written by Mr. Murray in connection with another matter. They certainly were offensive to one of our managing editors, afterwards to myself, as you can see by the correspondence. I don't want Mr. Murray to think I am attacking him in any way now, but I think you know of a number of similar circumstances or somewhat similar circumstances to that. Mr. Murray, as I have said in the articles I have written, was an exceedingly good secretary. I don't think you can get any man who could handle the office of the Association, the details of the office, better than he did. Now, as I said, Mr. Parsons wrote me several times asking me to see him, to see if he couldn't arrange a better understanding between Mr. Murray and myself, but I replied there was no misunderstanding between Mr. Murray and myself and there was nothing to arrange. Finally I went to his office at his request—I think I can show you the letters this afternoon—and showed him the article and correspondence that passed between Mr. Murray and myself. He said he wanted to arrange in some way that this action for libel that I had

brought against the Association should be settled in his time, and the matter was discussed and nothing further done.

"Now, in Montreal my good friend Mr. McKinnon and Mr. Stewart came to me and asked me if I would not settle my difference with Mr. Murray. I told them quite frankly, 'I have no difference with Mr. Murray; I have no quarrel with Mr. Murray, but some people insisted in spreading that.' Is that not correct, Mr. McKinnon?"

MR. MCKINNON: "Partially so, Colonel, just partially; it is about a half truth."

Offers a Thousand Dollars

COL. MACLEAN: "I wish you would correct me. I would like Mr. McKinnon to speak afterwards and correct me. They wanted to know if I would shake hands with Mr. Murray, and I said certainly, and I told Mr. Murray then how highly I thought of him. I paid no more attention to it; I thought no more about it, and this statement that I was to speak the next day was quite a surprise to me. There was nothing said, as I recall, of it.

"I am sorry to take up your time with this reference to Mr. Murray, because I didn't want to refer to it, but I hope this afternoon I will show you the correspondence or show it to the President or to a committee. In fact, I think bringing up this Murray case is merely a bit of word politics.

"I just want to say this in conclusion—any further reference to Mr. Parsons' remarks will, I am sure, be dealt with by the editor of the *Financial Post*. His address dealt largely with that subject and will be replied to through the columns there. I just want to say this—I feel very strongly on the greatness of this Association and the very great importance of building it up and putting it in the hands of a big man. Mr. Walsh may be the man, I hope he is. (Hear, hear.) But if not, let us get a stronger man. Mr. Walsh has proved his capacity; he has done exceedingly good work, we all know, in the Transportation Department, but I will give practical evidence of my faith and my belief in the value of this Association and in the value of a big man at its head who will express its views and who will make it popular and carry the whole country with it. I will be one of fifty to give a thousand dollars a year towards the salary of its general manager. (Voices—No, no.) And I believe that in the long run the money will be well spent; or I will be one of twenty-five to give $2,000 a year.

"Now, gentlemen, I am sorry; I had no intention of speaking. I should have said Mr. Parsons kindly called me up yesterday afternoon and said he was going to speak, and I said I was very glad he was bringing it up, but I had no intention of saying anything whatever, and I thank you for the kind hearing you have given me."

Mr. Henderson's Comments

MR. HENDERSON (Windsor): "I will not take up much time, for this Association is, I consider, far too large an Association to be worried or bothered by any personal differences between the members and any publisher of newspapers. It is unfortunate that any names have been mentioned at all, and I would not say anything but the question is too large, and Col. Maclean has asked that the matter be treated in a broad way. I will try to be broad, but before saying anything about the broad principles, I would like to say Col. Maclean is absolutely under misapprehension as regards the seeming difference between Mr. Murray and himself. When I was your principal officer I happened to notice an article in one of the Maclean publications which, to my mind—well, I don't know anything about newspaper ethics or publishers' ethics, but I do know something about the ethics between business men—and I wish to say it was unpardonable, that is the mildest I could put it. I wrote the editor of INDUSTRIAL CANADA and drew his attention to the article and said some reply should be made. I don't think Mr. Murray, up to this time, possibly had seen the article I mention. I don't think he ever saw the reply. I didn't write it at all, but I saw a copy of it before it was published, and so far as anything libellous is concerned, I don't think my friend Col. Maclean, whom I have had the pleasure of knowing for over a quarter of a century, could have any complaint, but I felt jealous for the honor of the Manufacturers Association, and if he found any manufacturer had committed an unpardonable sin such as he mentioned, instead of going after the Association as a whole body, why in the name of heaven didn't he denounce that man? (Applause.) Why did he attack the whole of the organization? To my mind that is worse than anything that I have heard yet—that the whole Association was to be pilloried and degraded for the terrible offence of one man is, I think, unpardonable.

Article Was Not Helpful

"Now, to come to broad lines, that article which appeared in last week's *Financial Post* certainly did not help to mend the differences between the agricultural interests and the manufacturing interests. If there is a division, will such an article as that bring us together? (Voices—No, sir.) It was stated nothing was done to bring the agricultural community and the manufacturers together. Has Col. Maclean got a very short memory? Does he not know that in 1914 we met the Grain Growers, Mr. President, and during the time we spent together in Winnipeg we did everything possible to get the views of these men and after wrestling with the matter for three long days and nights we agreed upon certain things and we arranged for a representative mixed committee of manufacturers and grain growers to wait upon Mr. Borden and the Cabinet. We did meet them by appointment, and we discussed matters very fully, and I may state Mr. Good was one of the members there at the time and helped to discuss matters. We tried to agree upon something which would be for the benefit of the whole of Canada. We found there were irreconcilable differences between the two bodies; at least the grain growers thought so; I myself didn't think so; I think we tried to understand them as well as we could, and from that day to this no one can say we have not made every possible attempt to get in close touch and harmony with the great agricultural interests of this Dominion. Because I say now, as I have said often in public, that the whole prosperity of this Dominion depends not only on the efforts of the agriculturists, but also of the manufacturers. No country can be great which depends on agriculture alone; no country will ever be great which depends on manufacturing alone; but the two have to go hand in hand, and I say it is an ill-done thing for any man, even if he is the proprietor or publisher of a paper, to spread reports which are going to make wider the difference than it is to-day.

No Such Thing as a Clique

"In regard to the running of this organization, I question if any man here has attended more meetings of the Executive Committee than I have. For four years I don't think I ever missed a meeting of the Executive Council and Committee, and I don't know of any body I have ever been connected with in which there was more freedom of opinion, or

more independence of opinion, than there was in that Executive Committee, and to say that there was any clique is most abominable and is an infamous untruth. (Applause.) I think many of the older members here know me and I certainly would be the last in the world to submit to dictation from anyone. I don't care who he was or what he was, and I have no hesitation in expressing my opinion to say I was not dominated by a clique, and I say it was a personal reflection to say that I personally dominated over that body. It is something that to me is a little unwarrantable.

"With regard to the general policy of the Association, I may have my opinion and Col. Maclean may have his opinion, but we put the matters in the hands of—we elect our own committee or elect our Executive Council and we trust to the fairness of these men, we trust to their kindness, and it is up to us to see the right men are elected and it is not to discuss in the newspapers or any place else if we don't agree with them, but for goodness sake don't allow any expression of personal opinion to interfere with the work of this great organization which, to my mind, at the present time, is the most important organization we have in Canada to carry on the work and to pay our debts." (Applause.)

Vote of Confidence Passed

MR. BITTUES (Montreal): "I would like to move that further discussion such as this can be of no great good in this meeting. This can be done, however; you have heard personalities mentioned; you have heard discussion of a clique and so forth; you now have a representative meeting before you, and, if I get a seconder, I would move a vote of confidence in the Executive Committee, inasmuch as Mr. Parsons, Mr. Walsh, and Mr. Murray are members of that committee, I believe, and that further discussion be referred to a committee appointed for the purpose.

Mr. SAM HARRIS (Toronto): "I don't think that is right. The *Financial Post* has been copied by a great many papers and it is all over Canada, and here is a representative meeting, and if there is anything to say, say it now. I personally have a little to say, because for the last fifteen or sixteen years I have been a member of the Executive Council. I am not here to boast or confess, but, in making this statement, it is only to bring it up to the point. In that fifteen years there has been an election every year and the members of the Association have utilized their franchise. Also, in that fifteen years we have had many meetings in many places and I suppose to get anything down to a point—not a pin-head, but the point—you have to get down to the individual, and in speaking for myself, I don't want to do that particularly for myself, but for colleagues that have been doing what they could in those years. But in that time I have paid my own expenses, every dollar except a lunch now and again in Montreal. (Laughter.) (No use going to Montreal any more.) In that time, wherever it was necessary to go I have gone, and many others of the members, and done what we could to the best of our ability. I want to come down to personalities just a little. Generalities we have had enough of. It can't possibly be Mr. Murray. I always thought it was, but Col. Maclean has said it was not, so it must be somebody else. I want to ask Col. Maclean if he wrote this article in the last issue of the *Financial Post* or inspired it. Did you write it or inspire it?"

COL. MACLEAN: "You had better write the editor of the paper."

MR. HARRIS: "He answereth not. The letter is to Col. Maclean, but the reply is not written by him. It does not say so. It is like some of the other things, under a *nom de plume*. However, we need not ask the Colonel. If he had written the article he would then be conversant with everything in it, and therefore able to answer any questions that are directly mentioned here. It would not be a question of whether he said so or didn't as in the case with Mr. Parsons. The two points I particularly refer to are, this pin-head business and the clique. Mr. Parsons and Mr. Henderson have answered very clearly the other parts, and while Col. Maclean's stories were very nice, and the one statement he made about 'Made in Canada' was interesting, still he didn't attempt to answer Mr. Parsons in any way. (Hear, hear.) About pin-head—I want to ask Col. Maclean (he must have in his mind who the pin-head is or who the pin-heads are), I want to ask him, Am I one of the pin-heads? Go to it, Colonel, it is your turn."

COL. MACLEAN: "Possibly when you finish your speech I may be able to say."

MR. HARRIS: "I want to tell you after all that has been done and said, without he can verify it—and I think he will have some going to do it, because his success doesn't match up any greater than the success of other men who have taken an active interest in the Manufacturers Association—I want to say the act is an act of a yellow cur. I want to put it as strong as I know how personally, and if you don't understand the language of it, a cur is the lowest breed of a dog and the yellow one is the lowest breed of a cur."

THE PRESIDENT: "Order!"

MR. HARRIS: "I take it as personal to my own self, and I am addressing the Colonel on the matter; I don't intend to take it any longer, and I take it personally because I am a member of that Executive Council and have in the fifteen years been there steadily. Now let the Colonel answer."

Motion is Carried

THE PRESIDENT: "Gentlemen, I don't think any good is going to be served by prolonging this thing. I think, gentlemen, that the members of this Association have judged and answered by their applause as to what they think. Now, gentlemen, I confess to you, coming as I do, 1,400 miles to a meeting of this Association, I do not want another hour spent in just this way. I think, gentlemen, if it is your desire to find a seconder to Mr. Bittues' motion, and refer it to a committee if you wish, you can do so, or do anything with it that you like. I confess to you, as far as the West is concerned, that many of the *Financial Post's* statements are quoted against us continually, but I don't think that that warrants the annual meeting of the Association spending an hour on it, and I would like, if you wish, to have a seconder to the motion."

MR. ROBSON (Edmonton): "I come 2,600 miles from Edmonton, and I will second the motion."

MR. BITTUES: "With Mr. Robson's consent, I would withdraw the second half of my motion, but I think we would all like to see a vote of confidence taken on behalf of the Executive and officers who have been more or less assailed."

Mr. Robson gave his consent as seconder, whereupon the President put the motion which was carried with applause.

The Financial Affairs of the Association

Deficit of $1,562 Reported for the Last Fiscal Year—Fine Performance of INDUSTRIAL CANADA Department Commented Upon—Association's Investments Remain Intact Despite the Greatly Increased Expenditure

Report Presented by

J. F. ELLIS

Treasurer, Canadian Manufacturers Association

THE financial report of the Association for the year ended April 30, 1919, was presented at the conclusion of the morning session on Tuesday, June 10, by Mr. J. F. Ellis, treasurer of the Association. Mr. Ellis said: "Mr. President and gentlemen, you have in your possession the printed copy of the financial statement, so that it is not necessary for me to go into details. I will merely read the auditor's report.



B. and C. Press photo

J. F. ELLIS
Barber-Ellis, Limited, Toronto
Re-elected Treasurer, C.M.A., 1919-1920

"In the Executive Committee's report reference is made to INDUSTRIAL CANADA. I want to give you one or two figures which you don't have in that report. You have in that report the revenue for the past year of INDUSTRIAL CANADA; it runs a little over $49,000 for advertising and other little items. I just wish to compare that with the year before, when it was $35,000; the year before that, $27,000; the year before that, $22,000, and in 1915, $24,000. This is most gratifying. We have a valuable asset in INDUSTRIAL CANADA. You know the profits last year reduced our overdraft by over $8,000, and I trust the membership will give INDUSTRIAL CANADA its hearty support, and I feel sure the Committee intend this year to improve it so that it will be in greater demand than ever.

"I have much pleasure in moving the adoption of the Treasurer's Report, seconded by Mr. Howard."

The President put the motion to adopt the report, which on a vote having been taken, was declared carried.

Toronto, May 22nd, 1919.

The President and Members,
Canadian Manufacturers' Association, Inc.,
Toronto.

Gentlemen,

We have audited the Books and Accounts of the Association for the year ending 30th April, 1919, and attached hereto please find Balance Sheet, Revenue Account, etc., duly certified to by us. We have also verified the Cash and Bank Balances and the Investments, as shown in Schedule E.

Yours faithfully,

WILTON C. EDDIS & SONS.

BALANCE SHEET, 30TH APRIL, 1919.

30th April, 1918.				30th April, 1919.
	LIABILITIES.			
$2,773 21	Accounts payable, Schedule C			$5,682 29
	Publicity account, balance ..	$442 91		
375 00	Scholarship Fund, balance ..	507 00		
				949 91
31,699 53	Fees paid in advance	$33,539 58		
689 42	Buyers' Guide and subscriptions to INDUSTRIAL CANADA, paid in advance	674 43		
				34,214 01
	Revenue Account:			
46,730 81	30th April, 1918. By balance	$46,730 81		
	30th April, 1919. To deficit for year	1,562 34		
				45,168 47
$82,267 97				$86,014 68
	ASSETS.			
$13,393 42	Cash on hand and in bank, Schedule D	$9,681 68		
53,632 59	Investments, Schedule E	53,700 49		
1,172 24	Interest accrued on above ..	974 77		
$68,198 25				$64,356 94
	Accounts receivable, INDUSTRIAL CANADA	$11,105 83		
	Less reserve for bad debts..	1,000 00		
7,796 73		$10,105 83		
1,033 75	Sundry debtors, Schedule F.	3,687 82		
476 24	Members' fees, accrued and due	308 75		
				14,102 40
4,763 00	Furniture and fittings			7,555 34
$82,267 97				$86,014 68

Audited and found correct,

WILTON C. EDDIS & SONS,
Chartered Accountants.

REVENUE ACCOUNT.

For Year Ending 30th April, 1919.

To Expense, Schedule A	$86,869 04	
" Depreciation, furniture	839 48	
" Companies' test cases	500 00	
" Publication, Parsons-Emery speeches	8,737 59	
" Lyons Fair	1,041 85	
By Membership fees		$84,467 52
" Interest		3,132 02
" INDUSTRIAL CANADA, Schedule B		8,636 62
" Trade Index, 1916		189 46
" Deficit for year carried to Balance Sheet		1,562 34
	$97,987 96	$97,987 96

SCHEDULE A.

EXPENSE.

For Year Ending 30th April, 1919.

Annual Meeting		$1,017 12
Branches, exclusive of furniture—		
British Columbia	$5,337 82	
Hamilton	739 96	
Maritime Provinces	3,564 77	
Montreal	6,381 86	
Ottawa	5,209 21	
Prairie Provinces	8,346 53	
Toronto	2,491 89	
		32,072 04
Certificates		308 79
General counsel fees		3,450 00
Departments—		
Commercial Intelligence		4,715 40
Tariff		9,303 54
Transportation		15,376 63
Exchange		71 65
Postage, general		1,055 56
Printing and stationery		2,067 12
Rent and light		1,472 04
Salaries		15,063 88
Sundries		1,077 76
Telegraph and telephone		430 52
Translations		Cr.102 12
Travelling, general		548 60
		$87,928 53
Less Insurance Department, credit		1,059 49
		$86,869 04

SCHEDULE B.

INDUSTRIAL CANADA.

Statement Showing Income and Expenditure for Year Ending 30th April, 1919.

INCOME

Advertising display	$47,629 72
Advertising Buyers' Guide	1,270 33
Sale of copies	251 85
	$49,151 90

EXPENDITURE.

Electros	$523 22
Special literary matter	643 15
Postage and distribution	1,627 40
Printing and stationery	26,106 65
Rent and light	1,100 04
Salaries	10,643 88
Telegraph and telephone	73 13
Travelling	191 30
INDUSTRIAL CANADA prizes	190 00
Sundries	56 51
	$40,155 28
Profit for year	8,996 62
	$49,151 90
By profit for year brought down	$8,996 62
To provision for Income Tax	360 00
By balance carried to Revenue Account	$8,636 62

SCHEDULE C.

ACCOUNTS PAYABLE.

Methodist Book Room	$1,872 32
National Manufacturers' Association	4 00
Bell Telephone Co.	40 20
C.P.R. Telegraph Co.	31 04
G.N.W. Telegraph Co.	15 15
T. Eaton Co., Ltd.	84 75
H. Dalton, expenses	191 38
G. E. Carpenter, expenses	5 33
Dominion Press Clipping Co.	50 00
Legal expense	550 00
Sundries	100 00
	$2,944 17
Toronto Branch, suspense	1,684 07
Provision for Income Tax, INDUSTRIAL CANADA (two years)	520 00
Trade Index, 1919, received in advance	105 75
INDUSTRIAL CANADA, received in advance	428 30
	$5,682 29

SCHEDULE D.

CASH ON HAND AND IN BANK.

Cash—	
Toronto	$225 00
Montreal	125 00
Winnipeg	200 00
Vancouver	200 00
Cash account, stamps, Toronto	88 55
Bank	8,843 13
	$9,681 68

SCHEDULE F

SUNDRY DEBTORS.

Pulp and paper section, Feb.-April, 1919	$565 75
Tanners' Association, July, 1918 to April, 1919	171 92
Willis, Faber & Co., rent arrears	2,139 25
" " " rent, April	98 16
" " " telephone	31 00
Trade Index, 1919, expenditure to date	651 29
Sundries—translations and 1916 Trade Index copies	30 45
	$3,687 82

SCHEDULE E.

INVESTMENTS.

Due Date.		Rate of Yield.	Yield.	Par Value.	Amortized Value.
1 July, 1944	City of Toronto Bonds	3½%	4.25%	$4,866 67	$4,301 72
1 Sept., 1920	City of Hamilton	4%	4.22%	4,000 00	3,988 37
1 Jan., 1941	City of Stratford	4½%	4.25%	10,000 00	10,334 84
30 June, 1942	Riordon Pulp & Paper	6%	6.1%	5,000 00	4,957 51
1 July, 1948	City of Toronto	4%	4.75%	6,236 66	5,577 67
1 Oct., 1932	City of Brandon	5%	5.1%	10,000 00	9,903 16
July, 1925	City of Toronto	4½%	5.4%	5,000 00	4,770 88
1 Dec., 1927	Dominion of Canada War Loan	5½%	5.8%	10,000 00	9,866 34
				$55,103 33	$43,700 49

A Review of the Association's Activities

Considerable Attention Paid to the Labor Question during the Past Six Months—The Tariff Question Again to the Fore—Progress Made by the Association—Work Done by the Executive Council

By W. J. BULMAN

President, 1918-1919, Canadian Manufacturers Association

MR. BULMAN'S INTRODUCTORY REMARKS

BEFORE attempting to read the presidential address, I would like to say, as you all know, that we in Winnipeg have been immersed in a strike. It is more than an industrial dispute. It is practically a revolutionary movement, and all our time has been entirely devoted to that. I myself have not left the Citizens' Committee Headquarters since the day the strike opened until I ran away to catch the train to come down here. You can imagine, therefore, my contribution to the Annual Meeting must of necessity be very limited. We have up there the labor situation in its most acute form. The trade dispute—that is, the dispute between employer and employee—is entirely left in abeyance. Nothing is being done with that until the question of who governs the country is settled; until the question of whether a sympathetic strike can succeed as against a whole community; whether that challenge to the whole community can be made good. Most of the right-thinking labor people are practically in the Citizens' Committee, but are intimidated into remaining away from their employment. The situation up there is developing siege tactics, and when it will be over no one knows. But I can tell you this, that the citizens of Winnipeg, represented by the Citizens' Committee, represented by a Committee that was last Sunday morning, in the auditorium, 6,000 strong, to hear the report of its representatives—and these men, although they are tired working in the fire-halls and barracks, and all the other activities the citizens are carrying on, every one of them is determined the thing will be fought to a finish. Now, we don't want to discuss the labor situation in Winnipeg, but I thought that being before a body of men who have given their entire life to the development of industry in Canada, you would, without any explanations, be able to appreciate the importance of that contest in Winnipeg. We are not opposed, any one of us, to the labor union; we are not opposed to collective bargaining; but we are opposed to one big union, and we are opposed to sympathetic strikes in public utilities, and until those questions are settled you need not look for any adjustment of the trade disputes in that section of the country.

WHEN we were assembled in annual meeting last year the war had reached one of its darkest periods. The Germans had dealt a heavy blow against the Allies on the western front and were concentrating for a thrust against Paris. What history-making changes have occurred since our last meeting! The foe has been overwhelmed on the field and forced to sue for peace; his navy has been delivered to the Grand Fleet and rides at anchor in Scapa Flow; the Peace Conference has re-drawn the map of the world; the new nations look forward to freedom; and (important to us at least) the Canadian Army, after winning imperishable glory, is nearly all at home again.

As enlistments from those associated with industry were greater than from any other occupation, the industrial life of Canada was intimately connected with and greatly affected by the war. Consequently, the dislocation was great when these thousands of men passed into the army, and it is great when they are returning to civil life. We do not wish to enlarge on the part played in the war by Canadian industry, including both employers and their employees. All tried to do their duty, whether that duty consisted in fighting, or making munitions, or producing other war supplies, or contributing to war funds, or manufacturing goods for the civilian population. It is preferable to leave to others the estimation of the manner in which these duties were performed. The Imperial Government and the leaders of the allied forces have borne frequent and complimentary testimony to the activities of the Canadian Army on active service; and in reporting to the Imperial Government for the year ending 1917, the War Cabinet of Great Britain, speaking of Canadian industry, said "The manufacturing forces of Canada have been mobilized for war production almost as completely as those of the British Isles. Their just portion of such commendation is gratefully appreciated by those engaged in Canadian industries.

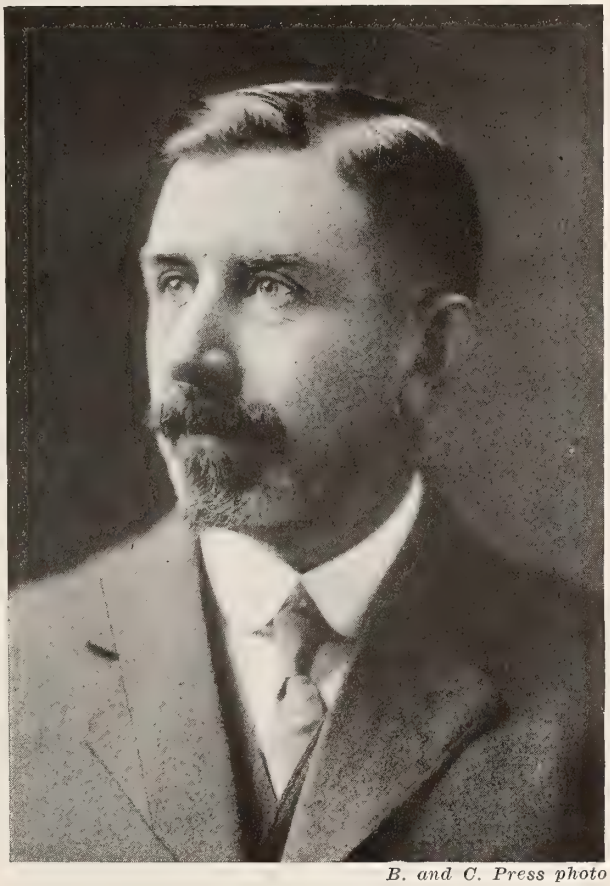
When the armistice was signed, the majority of the people in Canada did not expect the end quite so soon. The economic situation contained all the elements of widespread unemployment. Munition-making and other war production stopped immediately, because it was impossible for firms to continue manufacturing goods for which there was no sale. Over 300,000 soldiers were still in uniform, and provision had to be made for them on their return to Canada. A very trying winter was passed with fair success, and with less unemployment than might have been expected under the circumstances. This fortunate result was accomplished through the united efforts of the Dominion and Provincial Governments, the employers, the municipalities, the various soldiers' societies, and the workers' organizations, all of which, for the greater part, took a reasonable attitude that assisted materially in averting the threatened crisis.

But we have not yet passed the period of readjustment from war to peace conditions. We went successfully through the war; we have got through most of the work of demobilization; but there are problems now facing us which are quite as difficult as those arising out of the war or demobilization, and we will be very fortunate if they are solved as safely and successfully. The chief problem, which contains the elements of practically all others, is that which has excited the fiercest controversies for centuries; namely, the constitution of society. The Royal Commission on Industrial Relations, created by the Dominion Government, has finished its sittings in all the chief industrial centres from coast to coast. This Commission has created an open forum where all might state, not only their grievances, but also their conception of the laws and practices which should govern the social structure.

During the past six months, the Association has devoted considerable attention to the labor question. Council instructed that in all industrial communities steps should be taken to bring employers and employees together for the purpose of discussing the labor situation, and to suggest remedies for existing difficulties. Moreover, the Association co-operated officially with the Department of Labor, and has done everything in its power to carry out the suggestions made by the Minister of Labor, and also to co-operate with the workers generally. We can state, from our experience during the past six months, our firm belief that the

majority of Canadian industrial workers are reasonable people, and that their views can be met without undue hardship to industry. They realize that in every industrial company there is a limit to the amount which can be set aside to pay wages, and also that a certain number of hours of labor must be expended on production in order to keep their company operating in competition with other Canadian and foreign firms.

While the general result of our negotiations with employees has been satisfactory, in one particular we have failed entirely, and that is in dealing with the extreme element which has made its appearance for the first time in Canadian industrial history. These extremists are impregnated with the ideas which brought about the Russian catastrophe. They are revolutionary in their methods and revolutionary in their speech. It seems impossible to negotiate with them. They do not ask for a peaceful solution. They appear to want war. Literature was confiscated recently in various parts of Canada which advocated that the "proletariat" take up arms, and, if necessary, wade through blood to achieve their ends. Briefly, they consider that only certain manual laborers have any rights either to control property or to have any share in the Government. They believe that all other classes should either be "abolished," or brought under the control of their committees. They do not believe in private property, or bank interest, or capital All these things should be "abolished." They ask that "the instruments of production" shall become common property. They specifically state that all farms should be confiscated, and given to the poorer agricultural laborers. When a number of these revolutionaries were arrested recently in Toronto, it was found that the leading spirit was a Russian student who had come to this country from the United States, and that his two chief assistants were a man and a woman who were both Germans. If this country is to retain confidence in organized labor, the trades and labor unions will have to denounce any of their members who hold and preach seditious doctrines that are repugnant to the common sense of the Canadian people. Private property is not going to be eliminated. Revolutionaries cannot convince a million farmers in Canada that they should hand their farms over to anybody. They cannot persuade some hundreds of thousands of Canadians who own small shops, that they should relinquish possession. They cannot convince other hundreds of thousands who have accounts in the banks, that their savings should be put into a common purse. They cannot convince some millions in Canada, many of them wage-earners, who own or are paying for their houses, that these houses should be given to Soviets, as they were in Russia, for the purpose of billeting the chosen friends of the Soviets. They cannot convince the owners of factories, whether individuals or stockholders, that their rights under the law are an illusion. They cannot convince any loyal citizen who has acquired property by industry and thrift, that he is not entitled to the free use and possession of it. It is only safe to judge a social theory by its accomplishments, and what have been the accomplishments of the Russian experiment? The Russian Soviets acquired and maintain their power by means of a mercenary army which massacres all who offer resistance or even remonstrance. The material results of the Russian revolution were briefly: First, the withdrawal of Russia from the war, and the consequent increase in loss of life and money to the Allies; second, the paralysis of Russian industry and transportation; third, the impoverishment of the Russian farmers, whose crops were taken by the Soviets or committees of workmen without payment. The new rulers of Russia hoped to introduce an industrial millenium, but they caused industrial chaos.



B. and C. Press photo

W. J. BULMAN
Bulman Bros., Limited, Winnipeg
Past President, Canadian Manufacturers Association

In April of this year, the British Government published a White Paper entitled, "Bolshevism in Russia." This remarkable document is a compilation of various reports received by the British Foreign Office from its agents in Russia, letters and other statements from credible eye-witnesses of the Russian revolution. The British White Paper shows the effect of Soviet control of factories as described by a British agent who left Petrograd in November last:

"Russian industry is dead for the moment, and the Russian industrial workman has ceased to exist as a class for the time being. It is an extremely curious feature of the Russian revolution that a movement which has proclaimed itself as social and democratic has achieved in the first instance total destruction of those social groups on which a social democratic organization is mainly based, and the class of the industrial workmen. All factories, all the important ones with a few exceptions of those who are still engaged on munition work, are stopped, and the industrial workman had either to return to the village with which he had no more ties in common, or to enlist in the Red army. The younger generation of the workmen, men of 19 to 26 years, have to a great extent chosen the second alternative, and it is they who form the Bolshevik nucleus of the Red army. To speak of the growing success of the management of industrial concerns by Soviet is an absolute misrepresentation. It would be sufficient in order to disprove this statement to cite the instance of the most important factories and works in Petrograd, Moscow and Nishny, where factories which engaged usually many thousands occupy now a few hundred men."

Another British agent, Mr. Alston, wrote as follows to Earl Curzon:

"At the principal factory at Kolomna, a town on the Moscow and Kazan Railway, there are only about 5,000 workers

out of the normal total of 25,000. The factory is run by a committee of three—one workman, one engineer, and one director. Here, as everywhere, all the workmen are discontented and would much prefer the old management. The situation is intolerable. Nobody works and nobody wants to work, while the one and only topic of conversation is food. All the people are discontented because they have not got enough to eat."

What happened to special trades is shown by the following synopsis of the reports published in the British Government's White Paper dealing with conditions in October, 1918:

Metal Trades—practically at a standstill.
Linen Trades—50 per cent. of normal.
Woollen Trade—Production decreased 60 per cent. Stoppage during summer of one to three months in all the mills.
Cotton Trade—Production decreased 60 per cent. below normal.
Silk Trade—Greatly decreased, 60 per cent. of normal.
Coal Trade—60 per cent. of normal. Shortage caused by absence of work people.

The Bolsheviki rulers of Russia have divided the people into four categories, the army and manual workers being in the first and second categories, other workers and "intellectuals" being in the third and fourth. The scanty provisions are doled out by food tickets and the following proclamation, issued at Petrograd on October 9th, 1918, shows what the people can get with their cards:

"The Commissary of Food of the Petrograd Labor Commune informs that on Friday, Saturday, Sunday, and Monday, for four days, the following products will be given, on the presentation of the bread cards, according to category:
1st category—1 lb. (Russian) of bread, and 3 lbs. of potatoes.
2nd category—½ lb. of bread and 2 lbs. of potatoes.
3rd category—¼ lb. of bread and 1 lb. of potatoes.
4th category—½ lb. of potatoes."

In a report received by the Foreign Office from a British agent in Moscow on February 8th, 1919, the following statement appears:

"The difficulty, however, is that no food, except black bread, is available for distribution, and the quantity of bread distributed at present, namely ½ pound for the first category, ⅜ pound for the second, and the ¼ pound for the third, is completely insufficient to keep one alive."

Nominally, the new Russian industrial rulers granted extraordinary increases in wages, running generally from 1,200 to 1,300 per cent., the greatest increase being in the textile industry, where it reached 1,736 per cent.

But what can the unfortunate Russian workmen buy with their high wages? The following is a table of prices current in Moscow on December 15th, 1918, in Canadian money:

Potatoes (mostly rotten)	$5.00 per lb.
Salt fish (bad condition)	4.50 per lb.
Bread (by card)	.75 per lb.
Pork	25.00 per lb.
Beef	11.00 per lb.
Tea	40.00 per lb.
Butter	40.00 per lb.
Suit of clothes (ordinary)	400.00 per suit.
Pair of shoes (poor quality)	200.00 per pair.

The Russian revolutionaries forget that the nominal amount of wages means nothing; the purchasing power of wages is everything. Most people in Russia stopped working steadily because they thought they were getting such high wages that they were rich. But Russian ground did not produce crops without work; Russian factories did not make goods without work; and, consequently, Russia is starving.

The Canadian Manufacturers Association does not take the view that our industrial system is perfect, or that either our form of Government or the structure of our society admits of no improvement. But we believe that much progress has been made by enlightened study and co-operation during the past centuries, and we contend that further progress can be made by the same methods. Of the two methods of improving unsatisfactory conditions—the Russian way and the British way—we prefer the British way.

The revolutionaries ask us to abolish the present economic system, and to substitute another which none of them defines.

In the discussions about the high cost of living, there is a tendency to forget the historical fact that great wars are succeeded by great scarcity, which often approaches famine. During four and a half years the energies of the civilized world have been devoted to destruction. Food and all kinds of material have been wasted in stupendous quantities. Production has been restricted through diversion of effort. The result is a world scarcity. Articles are dear now because they are scarce, and they will be dear until they become plentiful again. Other minor factors contribute, but this is the chief explanation of the high cost of living.

Salvation in More Work

Therefore, our only salvation is not in doing less work but in doing more work. The war has increased our debt. We have fewer hands to do the work that is necessary to provide for our wants and to pay our debts. Our forests can only be converted into lumber, then into money, and then into food and clothing, through the efforts of all connected with the lumber industry. The ore in the mines is useless until it is in a marketable condition. The land is fruitless until it is tilled and reaped. We have great stores of raw material, but they are valueless without work, and work must be defined in the broadest sense, the work of brains, the work of capital, and the work of hands. Directing ability, capital and labor are the three ever-present and indestructible factors of industrial production; they have existed since the beginning of civilization; and no practical system has been devised which dispenses with any of them.

So far we have been dealing with the extremists who take the view that the present social system must be abolished, and that another system must take its place.

The grievances of the wage-earners who are not destructive revolutionaries may be concentrated into three demands:

(1) They want a shorter working-day.
(2) They want more pay for the shorter period of work than they now receive for the longer period.
(3) They want to share in the control of industry.

What is the average day's work for all the people of Canada, both men and women? The farmers, for example, work about twelve hours a day in summer, and at least ten hours a day in winter, six and part of the seventh day; the retail storekeepers' average at least ten hours a day, and the housework done by women occupies their time probably ten or twelve hours each day. Few employers escape with less than ten or twelve hours. It is conceded that the day of factory-workers should be as short as possible because of the confining nature, and in some cases, on account of the laborious character of their employment. But, as a certain amount of national work must be done, it follows that, if a certain class of the population gets its working hours reduced, it seems reasonable to assume that other classes of the population will have their hours increased. That is, if the shoemakers shorten their day, the price of shoes must rise, and purchasers must work longer to pay the extra cost of their shoes.

While the gross national income varies yearly, the people have a fixed amount to spend each year. If the wage-earners get a fifty per cent. increase, and do less work for it at the

new wages than at the old, it follows that all other classes who are not wage-earners will have smaller incomes.

One of the fundamental facts underlying the social structure, is that no one class can long maintain rights, privileges or compensations which are denied to other classes. If the manufacturers, for example, are too greedy and are getting remuneration for their services beyond the value of those services to the country, the other classes of the country will very soon reduce that remuneration. If the farmers make unreasonable demands, all the other classes in common defence will quickly unite against them. If the industrial wage-earners are unreasonable in their requests for shorter hours and higher wages, all the other classes in the country will at once see that their interests are in danger; that this one class is determined to take something away from other classes. Consequently, the selfish demands of any single class cannot long prevail. Therefore, a body such as the Royal Commission on Industrial Relations is bound to do good. The opinions and demands of every class are freely published and discussed. As these become known they are analyzed, criticized and weighed by all other classes, and a verdict is reached as to whether such demands can be granted without undue danger to the common interest.

As for the control of industry, the expression "self-government of industry" is misleading. The direction of industry has little parallel with the government of a country. The Government has complete control over its citizens; it has the power of life and death, the right to give or take away property. Industry has no such control over its employees. Nearly all the heads of Canadian industries were once workmen themselves. They have risen to their present positions by ability, perseverance and thrift. The most difficult thing to get to-day is managing ability. The directors of Canadian industries are not trying to keep men down, they are trying to fit them to assume the responsibilities of management. They are eager to find ability, to reward it, and to place it in responsible positions where it will share in the control of industry. The purchase of stock is open to employees in many industrial companies, and employees have the same opportunities as other men who have succeeded, to save and invest their money. Thrifty workers aspire to be property-owners, or, in other words, capitalists. Such men despise communism, that paradise of wastrels, who having neglected their own opportunities, seek to rob those who have acquired possessions through the exercise of industry and self-denial. Can any system, which removes the incentive furnished by ambition, succeed? Sooner or later reactionaries and revolutionaries are brushed aside, and the great mass of moderate opinion crystallizes into the necessary action to solve problems as they arise. We must think as a nation on all these big subjects and not as a class, because only those demands which satisfy the nation as being best for the nation will be granted by the nation. The nation will ultimately determine the merits of the cases presented. There will be one test applied, and that is the question: What is the best solution for the country as a whole? I think the Executive Council and this annual meeting firmly believe that all industrial employees, and all other wage-earners, are entitled to, and should have as short hours and as high wages as the rights of all other citizens and the competition of other nations permit them to enjoy.

The Tariff

The past year has marked the revival of the agitation for lower tariffs and reciprocity and freer trade. The Association, which has always supported the policy of adequate protection for Canadian industry and agriculture, maintained that position, and urged upon the Government and the public the danger of departing from the national policy when the country is being readjusted from a war to a peace basis, when it is necessary to find employment for the army and for the war workers, and when nearly every other country in the world is either retaining or increasing the protection given to its own industries. It is interesting to note that the economic history of the western United States is being repeated in Western Canada. Successive agrarian movements in these Western States agitated to secure free trade and wider markets, but when great industries located in the West and built up large cities these agitations subsided. It is inevitable that a similar change will take place in Western Canada. A number of cities in the Canadian West are already industrial centres, and it is certain that other industrial centres will spring up as the population grows and creates a market for manufactured goods. When the value of the home market was demonstrated through the creation of industrial cities in Ontario and Quebec, those who clamored for free trade and lower tariffs dwindled into a weak minority. Canada has never had a high tariff. The fact that our imports have always greatly exceeded our exports, except in the abnormal conditions of war times, supports this statement. For years the United States, for example, has sold us from 50 to 100 per cent. more than we have sold to them. Moreover, their sales to us have been largely finished products, while our sales to them have been largely raw material.

A Comparison

We must realize that Canada, although greater in area than the United States, is practically a fringe four thousand miles long and about one hundred miles wide along the northern boundary of the United States. We must also remember that the United States has a population of over one hundred millions against our eight millions, is highly industrialized, and one of the richest trading nations in the world.

I do not think Canadians can ever forget the correspondence which passed between Ex-President Taft and the late Ex-President Roosevelt while the Reciprocity Agreement of 1911 was still under discussion, and which was published by Ex-President Taft on April 25th, 1912, in Boston, Mass., after the famous Taft-Roosevelt quarrel over the nomination for the Presidency of the United States. Ex-President Taft wrote as follows to the late Ex-President Roosevelt:

"The amount of Canadian products we would take would produce a current of business between Western Canada and the United States that would make Canada only an adjunct of the United States. It would transfer all their important business to Chicago and New York, with their bank credits and everything else, and it would increase greatly the demand of Canada for our manufactures. I see this is an argument made against Reciprocity in Canada, and I think it is a good one."

The late Ex-President Roosevelt replied as follows:

"It seems to me that what you propose to do with Canada is admirable from every standpoint. I firmly believe in free trade with Canada for both economic and political reasons."

These two men, among the greatest the United States has produced, saw very clearly that it would be a great advantage to draw on the immense natural resources of Canada for raw products, ship these products south to be manufactured in United States factories and reship the finished goods north for sale in Canada. Ex-President Taft stated the matter very clearly. Most of our business and the population engaged therein would move to the United States, leaving the Canadian people to be chiefly producers of raw material. If we are to maintain our national identity we must shape

our fiscal policy to that end. There is no doubt that if we should enter into a binding trade agreement with the United States, our trade policy would be dictated from Washington and not from Ottawa. Is it reasonable then that we should break down our tariff walls against the United States and lose our nationality? We want to maintain the friendly relations with the United States that have existed for over one hundred years, but as this war was fought largely to safeguard the rights of small nations, and as Canada earned her right during the war to be a nation, we are only asserting that right, and we believe that the United States, which has championed the cause of small nations, will be the first to concede and respect our ambition.

We want to retain in Canada our own citizens, to provide them with employment at fair wages, to build up a diversified nation, to develop our raw materials and our natural resources, through the efforts of Canadians, and to secure the rewards of industrial enterprise for Canadians. Canada is one of the few countries of the world possessing vast natural resources in a largely undeveloped state, and consequently, the eyes of the world are turning enviously to this country, and if we do not take proper precautions, we shall lose the added value which would be created by completing manufacturing processes in this country. We do not wish our heritage to pass into alien hands.

This Association believes that we need a tariff revision in Canada. The tariff has not been revised since 1907, and there never has been a scientific and thorough revision of the tariff in this country. The conditions of industry should be thoroughly investigated and analyzed by a competent body, say a tariff commission, acting in an advisory capacity to Parliament, and this commission should consist of properly qualified men rather than representatives from any particular class. If seven men were appointed, for example, we think they should be men who have made a thorough study, or are capable of making a thorough study of tariffs generally, and of Canadian tariffs particularly. We believe that the underlying principle which should govern the theory and practice of this commission, or similar body, should be to determine what tariff is best suited to the country. We manufacturers know that in the end we shall pay dearly for privileges which are not in the best interests of all. The only tariff which will suit Canada is a tariff which will prove beneficial to the greatest number of people in Canada. A tariff which will please the farmers only will not be in the best interest of the whole country; a tariff which suits the consumers only, by enabling them to buy indiscriminately with no thought of providing employment for other Canadians, will not be ultimately satisfactory. A tariff commission, and Parliament in ratifying the findings of a tariff commission, should steadily keep in mind one question: What tariff and what fiscal policy will do most to make Canada a great and prosperous nation within the British Empire? All other considerations should be sacrificed to attain this object.

Preferential Tariffs

The Imperial policy of preferential tariffs, which has been announced by Great Britain, marks a new period in Canadian history. It signifies closer trade relations between the various parts of the British Empire. It means that a great effort is being made by the various British peoples, who gained common respect for one another during the tremendous struggles of the war, to co-operate in building up Imperial trade. Canada is the pathway from Great Britain to the East, and one link in the chain which encircles the earth binding together the various nations of the Empire.

We must have a united country. Canada has always been a most difficult country to govern. We have been constantly torn with dissensions. We have the two principal races—British and French—and many of the earlier problems of this country were caused by the difficulties of reconciling the inherited prejudices resulting from several centuries of conflict between these two races in Europe. We believe that these prejudices are gradually dwindling, and that a liberal display of tolerance by both parties will cause their ultimate disappearance. We must recognize the fact that two main races are here. One represents about a third of the population of Canada, and the other nearly all the remainder. As neither of these sections of the population can very well be moved out of Canada, we must make up our minds to agree. Their futures are inseparable, and our efforts should be concentrated on bringing the best qualities of both races to bear on the solution of common problems, rather than on stimulating those passions and prejudices which drive them further apart. Let us wipe off the slate and start anew.

The broadening of our immigration policy brought in a heterogeneous population from Europe, much of which is not yet assimilated. The war withdrew a great many of the enemy aliens, and a considerable number of the friendly and neutral aliens. Nothing is to be gained by conducting a campaign of persecution against aliens indiscriminately. The friendly aliens are citizens of the nations with which we were at peace, and both friendly and neutral aliens were invited to the country, and in fact encouraged to come to the country by our Government. In many cases they are doing work which Canadians do not care to perform, and are doing it well. While they observe the law they are entitled to its protection and the privilege of earning a living.

The Case of the Alien Enemy

With enemy aliens the question is different. These people are here only on good behaviour. Many of them have shown themselves undesirable during the war. We cannot allow enemy aliens, or even neutral and friendly aliens, to conduct any propaganda which is aimed at the peace and good government of this country. Especially we cannot tolerate any invidious comparisons which are made between the government of this country, and the temporary and experimental governments in certain other countries. If suggestions are made that Canada should abandon our type of government, which is thoroughly British, in favor of an un-British type of government, there should be no hesitation about deporting immediately all who are concerned in the teaching of such doctrines. If, for example, they admire the Government of Russia more than the Government of Canada, they should be given the privilege of living under the Government of Russia rather than under the Government of Canada. All this, of course, is subject to the assumption that Canadians come first in business or in securing opportunities for employment, and that returned soldiers come first among the Canadians.

It is gratifying to note that the progress of this Association has more than kept pace with the country's development. During the period between 1900 and 1917, according to the records of the Dominion Bureau of Statistics, the percentage of increase in the various factors of industry in this country has been as follows:

Establishments	135 per cent.
Capital	520 " "
Number of employees on salary	140 " "
Salaries paid	305 " "
Number of employees on wages	100 " "
Wages paid	410 " "
Value of products	526 " "

The growth of this Association has exceeded comparatively the development of national industry. We are now

entering what may be called the third period of the Association's history. The first period preceded 1900, when the Association was provincial and consisted of a few members in Ontario and Quebec. When it was incorporated in 1902 its membership was about 300. During the second period, from 1902 to the present, the membership has grown from 300 to 3,530, an increase of over 1,100 per cent. These seventeen years have seen the Association spread all over Canada, and establish branches from the Atlantic to the Pacific. During the period we are entering, much intensive organization should be done on the framework which has been already created, and to this end a proposal will be submitted to you at this meeting to sanction the grouping of the Association for administrative purposes into five divisions with branches in each division.

The Executive Committee believe that the following principles should be developed: First, greater centralization of the executive powers to deal with policies and the chief problems of administration; second, the decentralization of details and the relegation of local matters to the communities which they affect. It is hoped in this way to secure rapid and competent action on matters which have a national application, and also to see that matters which have a provincial or local application, do not fail to receive proper attention. It is hoped that interest will be stimulated in every industrial community where we have members, and that these members will be encouraged to help the Association by every means within their power.

Policies of the Association

During the year, the Executive Council has endeavored to carry on the established policies of the Association, and where necessary, to enunciate new policies.

It is our policy to encourage and develop the growth and influence of the Association in the four Western Provinces. The work done to date has been very satisfactory, but much greater progress is desirable. We do not want to see Eastern Canada devoted chiefly to industry and Western Canada mainly to agriculture. Industry and agriculture should flourish side by side in all parts of Canada. It is most important that Eastern firms establish branches in Western Canada, and it is gratifying to record that the success attained by those who have followed this policy is inducing other to imitate them.

Council supported legislation to secure a Bankruptcy Act, uniformity of commercial law, an Act providing for Technical Education, and other legislation that was beneficial to industrial progress.

Council strongly approved the action of the Government in sending the Canadian Mission to London. The remarkable success of the Mission has entirely justified its appointment. Mr. Lloyd Harris, Mr. Frank P. Jones and the other members of the Commission, in assisting to secure the removal of the restrictions imposed by the British Government against colonial goods, and in securing additional ocean space, rendered an invaluable service to Canadian manufacturers. The Canadian Trade Commission in Ottawa, in spite of frequent changes in the personnel of its members, also has given assistance, and both Commissions have co-operated freely with this Association. The Association, on the advice of the Canadian Mission in London, immediately after the armistice, advocated the sending of individual representatives by all manufacturers to Europe, and where individual firms did not care to undertake such expense, that groups should organize and send representatives. The question of foreign trade now as always, is an important one for this country. It is a most difficult thing to build up foreign trade. It is easy to deal in generalities and to state what is desirable, but not so easy to show what is possible and profitable. But the necessity to increase our foreign trade is very urgent. Canada was exporting about $700,000,000 worth of manufactured goods annually when the armistice was signed. During the last year before the war, we exported manufactured goods to the value of only $57,000,000. The difference, of course, was largely made up of munitions and other war supplies. Another serious feature of the situation is that our small export trade before the war was built up on pre-war wages. The increase during the war was built up on war-time wages. The question is: How are we going to build up new export trade to replace that which disappeared with the close of the war, and still continue to pay war-time wages, and wages even higher than those paid under war conditions, unless similar conditions prevail in other countries?

Meeting the War Debt

But even this is overshadowed by the alternative question: How is Canada to pay her war debts if her exports are not greatly increased?

Transportation is to-day as it has always been, one of our most difficult problems. It is always a difficult question in a new and thinly-settled country. We have reason to be proud of our Canadian transportation systems, because they stood the strain of changing conditions of war and demobilization as well as, or better than, the transportation systems of the principal countries of the world.

A great experiment is being tried now in the Government ownership of railways. While this Association in annual convention at Winnipeg, in 1917, declared against the public ownership of railways, and even suggested that further aid should be given to certain railways under proper supervision so that their identity might be continued, the fact must not be forgotten that the construction of these railways was duly authorized by the people at large, and would not have been built without such endorsation. However, as the Government has been compelled to take over the Canadian Northern Railway, and to operate the Grand Trunk Pacific under a receivership, the experiment must proceed, and the Government is to be congratulated on the effort which is being made through legislation to keep the operation of these railways free from politics.

It may be necessary for the Government to take over the Grand Trunk Railway, but the extension of the principle of Government ownership to the Canadian Pacific Railway would prevent competition and, by overloading the Government, endanger the success of the whole undertaking.

Importance of Shipbuilding

If the work of the Canadian Trade Mission in London is to bear fruit, it must not be negatived by the shortage in ocean transportation. It is of the utmost importance that the shipbuilding programme of the Government should be hurried to completion, and that efforts be made to secure more ocean space. It will be most serious if the latter part of the summer and fall finds Canadian farmers unable to ship their wheat to Europe, and Canadian manufacturers unable to ship their goods, which have already been sold, on account of the lack of shipping facilities.

The result of the Ontario Insurance Investigation fully justified the attitude taken by this Association in regard to licensed insurance, as the Commissioner recommended that there should be on interference with unlicensed competition.

Canada still holds the unenviable position of having the greatest fire-waste per capita of any country in the world. As this Association's policy is to support any campaign or any

organization which is trying to reduce fire losses, we took the opportunity to attend and gave our support to the annual convention of the National Fire Protection Association of the United States, which was held last month in Ottawa.

Council has approved the policy of the Government in placing restrictions on immigration. We have enough problems on our hands now without encouraging the influx of Europeans who want to leave their own countries in order to escape the burden of war taxation. We should not encourage the immigration of those whose political and social beliefs unfit them for assimilation with Canadians. While a great country such as Canada, possessing millions of vacant acres, needs population, it is wiser to go slowly and secure the right sort of citizens.

Council has given a great deal of thought to the question of scientific research. There is no doubt that we have failed to attach proper importance to this subject in the past. Other countries are spending millions where we spend hundreds of dollars. Closely allied to the question of scientific research, is the question of providing adequate technical education and scientific training. For the next few years, Canadian educationists should concentrate on the task of providing greater facilities for industrial education, and also for agricultural education. Our whole educational system with few exceptions appears to be designed to supply the professions which are already overcrowded. Our sincere gratitude is due to the Government for its recent legislation in aid of research and technical education, and we believe that it will stimulate and strengthen the commercial fabric of the country.

A great many people think because the war is over that the watchwords "Work and Save" are no longer necessary. They are more necessary now than ever. While the war was on, we could not count expenses. In so great an emergency, money had to be spent lavishly. Now we have to pay the bill, and it can only be paid by the united efforts of the Canadian people, which means simply that we all must work harder than ever and save more than ever.

There is no easy path to success. Probably no other has more clearly defined elements of greatness. If all classes pull together, if they think less about themselves and more about their country, nothing can stop Canada; nothing can interfere with the fulfilment of her glorious destiny.

Adoption of the President's Annual Review

THE motion to adopt the President's annual review was moved by Mr. T. P. Howard, and seconded by Mr. Thomas Roden. Mr. Roden said:

"I think we are all impressed with the serious view that the President has given us of the problems before Canada. We have to work and save. Few of us are taking that seriously to heart. With such a tragedy as we have passed through, the greatest economy must be exercised to meet our obligations. Some of us had the opportunity of hearing Professor Maclennan the other night, in reciting to us his association with the Admiralty Board and the attitude of Great Britain in this emergency. Professor Maclennan stated the thing that burdened him most and the thing that seemed to burden the British Cabinet most, was the tremendous debt that fronts every country of the Empire. It is for us to help to direct public attention to the importance of our obligation and to encourage thrift and industry.

In Position of Advisers

"Frankly, I take the view that we are looked upon as advisors, in the sense that many of us have got past the stage where we check the details of our business, and are now acting in an advisory capacity. In that particular way I believe that our judgment should be one that should commend itself, not only to the business interests but to the whole community, because in many cases there are very great responsibilities devolving upon the men who are guiding Business. We have as you know to resist the importunities of men who are idealists and seeking the betterment of conditions without realizing the responsibility of their words or their recommendations, and as the President enunciated to-day, we have to face these responsibilities and we must have the courage of our convictions to stand up for what we consider our best judgment in dealing with these problems. We must not fear criticism if we are in opposition to those people who are idealizing for better conditions. We should not be intimidated into considering demands made upon us which will be inimical to the welfare and best interests of Canada. If we are misjudged, let us stand by our guns and determine that those things we are working for are worthy of standing by.

"We have been asked for lower working hours and increase of wages, which anyone who knows, knows that it means an increased cost of materials, and that will prejudice to a large extent our opportunities for export trade which we depend upon and which is so important to meet our debt charges and to keep away from Canada the tremendous importations that prevailed previous to the war.

Recognizing Responsibilities

"I think most men view with alarm the tremendous inroads that have been made, and I trust, gentlemen, that when we are asked to pass upon these matters, and when we are faced with industrial problems, we will have the courage to stand up, not with any spirit of antagonism but only a desire to recognize our responsibilities and to meet the situation in a way that will be a credit to ourselves. Lloyd George has stated in splendid words just what the situation was in Great Britain. In meeting a body of men, I think it was in Glasgow, he said, 'For generations we have been living and passing through a comfortable valley until the scourging hand of fate led upward to the peaks where we recognized the peak of honor, of industry, of patriotism, but more than all,' pointing his finger to heaven, 'that glorious peak of sacrifice, and we must not let these sacrifices be in vain.' Now, gentlemen, our men went forward and made tremendous sacrifices; they had the courage to meet the common enemy and die upholding the liberty and preservation of this glorious country, and I feel sometimes we are challenged as to our sincerity when we are trying to stem that tide of idealism which might mean the wrecking of our country. In that way we want to have courage and feel that whatever we do and say, not only with regard to labor but some of the abuses that have crept in to our general administration, both in business and in other ways, that we are doing our duty. We have a magnificent organization. We want to feel it is free from any cause for any of those insinuations that at times are made against us. But unless we are determined to be criticized ourselves, we cannot criticize others. Our president and our officers have given us splendid service in the past and we are proud of having such men at the head of our affairs."

The President put the motion to adopt the President's annual review, which on a vote having been taken, was carried with applause.

Insurance Committee Had an Active Year

Findings of the Ontario Insurance Commission are Discussed —Progress of Fire Prevention Movement Outlined—Desirability of Installation of Automatic Sprinkler Systems is Emphasized

Report Presented by

W. H. SHAPLEY

Chairman, 1918-19, Insurance Committee

SINCE the last Annual Meeting the Honorable Mr. Justice Masten, who was commissioned by the Ontario Government to make enquiries into the insurance laws of the Province of Ontario other than life and marine insurance, has made his report, and it is most gratifying to record that the findings of the report constitute an entire justification of the representations made by the Canadian Manfacturers Association before the Commission. When the Canadian insurance companies made an attempt to restrict competition by imposing an additional tax on fire insurance obtained abroad, this Association opposed the suggestion and arranged that evidence should be given by its members before the Commission.

The Commissioner finds that the Canadian Fire Underwriters' Association exercises practical control of fire insurance in Ontario, and that licensed independent companies are not sufficiently numerous to afford any adequate effect on rates. He states that the only real competition comes from insurance concerns not licensed in the province, such as London Lloyd's and the New England Mutuals. The Commissioner believes that nothing should be done to limit such competition, and suggests that inter-insurance exchanges in sufficiently good standing might be allowed to transact business in Ontario without making the deposit called for in the Ontario Insurance Act.

The Commissioner advises that the Provincial Government should be given power through legislation to exercise some control over the Canadian Fire Underwriters' Association and all similar rate-making organizations, and that the Superintendent of Insurance should be empowered to act as arbitrator between such organizations and the assured.

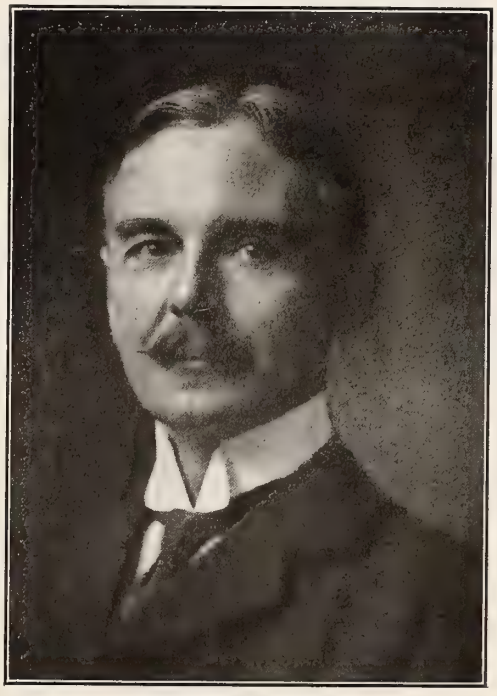
The Commissioner's Views

Actual rate-making by the Government is deprecated, as the insurance companies could refuse to transact business according to what they might consider inadequate rates. The Commissioner believes that State insurance is not feasible. He appears to think more highly of arbitration and conciliation than of undue Government control and interference. He also believes that in many cases the commissions paid to agents are too high. He points out examples where forty per cent. of a premium is alleged to have been paid as a commission, and favors a method of remunerating agents which will be based on the actual profit made by the agency or company. Before legislation covering the last point is enacted, he suggests that the companies consider the problem and agree upon some alternative, otherwise the Legislature should limit the amount of fees and commissions which may be paid or received on any application for insurance on property in Ontario.

The Commissioner, apparently thinking that too many people write insurance as a side line to their chief occupation, suggests that licenses should only be given to persons or firms dependent upon the business of insurance for a living.

The Commissioner advocates greater attention to the problem of reducing fire waste, as no substantial reduction of rates can be made without a corresponding reduction in fire losses. All who cause fires through carelessness or omission of duty should be made amenable to the criminal law. He advises the Government to employ experts, whose duty would be not only to inspect risks, but to educate property owners in fire prevention matters. He would compel insurance companies to keep their records so as to classify the business done, and to show the profits made in the various classes or risks.

The Commissioner recommends that the Insurance Department make a real examination of every applicant for a license as agent, broker or adjuster, the power to refuse or cancel such licenses to be vested in the Superintendent of Insurance, subject to the right of appeal to a judge. He would increase the annual fees paid by agents to a minimum of $5.00, graded to a maximum of



H. W. FLEURY
J. Fleury's Sons, Aurora
Chairman 1919-20, Insurance Committee

$100.00. He also advocates the appointment of business men and experts to confer with the Fire Marshal in making recommendations.

There is one suggestion made by the Commissioner in the following paragraph which your Committee could not approve.

"It appears to me that there should be a specific application in every case made to the Department and passed upon by it, and that the application should be refused unless the broker who is applying can satisfy the Department—first, that the insurance required cannot be obtained with registered companies at ordinary or reasonable rates; and second, that the company in which it is proposed to place the insurance is solvent."

Such an arrangement might readily meet with the approval of the insurance companies, and might find its way into legislative enactments unless developments are carefully watched. In practical effect such a claim would be a most effective means of check-

ing the competition of licensed insurance, whereas the Commissioner advises that such competition should be encouraged. Your Committee, therefore, instructed Council to communicate to the Commissioner and the provincial authorities our opinion that the proposal will be regarded by manufacturers with serious apprehension.

Your Committee believe that, with this exception, the Commissioner has made a most valuable report, and that his recommendations should do much to provide safer, cheaper and more satisfactory insurance to manufacturers. Your Committee take pleasure in expressing their complete confidence in the Hon. Justice Masten, believing that he has taken an unbiassed view of the subject and that the majority of his conclusions cannot be assailed.

Fire Prevention

As yet we have no official system of compiling statistics in regard to fire losses, and information available is, therefore, incomplete; but the *Monetary Times*, which has made a careful study of the question for years, estimates that in 1918 fire cost Canada 241 lives and about $32,000,000. This estimate does *not* include the lives and property destroyed by forest fires. So far as statistics are available, Canada leads the world in fire losses. Before the war the average annual fire loss of five of the leading countries of Europe was 33c. per capita per year. The fire loss of the United States per capita is about $3 per year. According to the estimate of the *Monetary Times* the annual fire loss in Canada is about $4 per capita. The loss of life incidental to fires is, of course, more deplorable than the loss of money; but to permit the annual destruction of $32,000,000 worth of property, exclusive of that destroyed in forest fires, in a period of high taxation, is a criminal example of national negligence. After giving considerable attention to this subject for a number of years, your Committee are convinced that, notwithstanding the efforts of the insurance companies, underwriters' associations and other bodies, this negligence is increasing rather than diminishing.

The report of the Ontario Fire Marshal shows how much manufacturers are to blame for fire losses. During 1918 the factories burned in Ontario numbered 486, involving a loss of $7,565,000, or one-half the total fire loss of the province.

Farmers also have shown negligence. In the same year 1,223 unrodded buildings were destroyed by lightning, while only two buildings fitted with lightning rods were burned. The great majority of these buildings belonged to farmers. The man whose property is destroyed by fire is only partly compensated; the people who are taxed to furnish the compensation are not repaid; the lives lost cannot be restored, and the property destroyed cannot be replaced. Every fire reduces the national wealth.

Should Have a Commission

This criminal waste will continue until we as citizens and as manufacturers take hold of it with a determination to reduce it and urge the Government to immediate action. The great mass of citizens, including the members of this Association, should not be taxed for these millions of dollars each year without a protest. In these days, when the appeal is being made to produce and save, both absolutely necessary if we expect to recover our position, we are certainly not assuming our responsibility unless we put forth a much greater effort to remedy this glaring evil.

Your Committee believe that the Government should appoint a commission to investigate the reasons underlying the fact that the fire loss of Canada is greater than that of any other country, and to suggest measures for its reduction.

Fire marshals should be appointed in every province, and fire prevention associations should be organized in every city, town, village and county. These associations should study local conditions and suggest remedies. A National Convention should be held annually to discuss fire prevention, and a constant campaign should be maintained. The practical results cannot be secured until the majority of the people are roused to the seriousness of the situation. We urge the members of the Association to interest themselves in forming fire prevention associations in their own towns, so that this matter may receive the attention it deserves. In this way we believe the fire loss can be reduced by each locality looking after its own conditions.

During the past year the Dominion Government invited representatives from a number of important interests to meet the Superintendent of Insurance at Ottawa, and as a result the Dominion Fire Prevention Association was formed. The Dominion Government has appointed a Fire Commissioner, who is giving his time to prevention work exclusively. Your Committee supported the creation of this association, on which we have now four representatives, including the Chairman of your Committee, who is also Chairman of the Dominion Fire Prevention Association. This Association, by acting in an advisory capacity and in co-operation with the Dominion Superintendent of Insurance, assists in co-ordinating the views and putting into practical effect the suggestions of those who try to reduce our national fire losses. Your Committee has tried to maintain the policy of this Association of steadily initiating and supporting all measures which are designed to fight fire, keeping in mind the principle that diligence should be rewarded, and that negligence should not escape the consequences of its acts. In this connection we would like to record our gratitude for the splendid assistance of the Press in publishing editorials, articles and statistics advocating the reduction of fire waste.

Amendments to the Code

The Executive Council of the Association approved of the following amendments to the Criminal Code which were drafted by the Dominion Fire Prevention Association, and which have been passed by both Houses of Parliament at the present session:

(1) Section 515 of The Criminal Code is amended by inserting the following subsection immediately before subsection 2 thereof:

(1A) Everyone is guilty of an indictable offence and liable to two years' imprisonment who by negligence causes any fire which occasions loss of life or loss of property.

The person owning, occupying, or controlling the premises in which such a fire occurs, or on which such fire originates, shall be deemed to have caused the fire through negligence if such person has failed to obey the requirements of any law intended to prevent fires or which requires apparatus for the extinguishment of fires, or to facilitate the escape of persons in the event of fire, if the jury finds that such fire, or the loss of life, or the whole or any substantial portion of the loss of property, would not have occurred if such law had been complied with.

(2) The said Act is further amended by inserting immediately after section 515 the following section:

515A. When any Dominion, Provincial or Municipal fire officer or authority recommends to the owner, lessee, or other person controlling or operating any building, structure, factory, shipyard, vessel, dock, wharf, pier, sawmill, or yard in which logs or lumber are stored or held, that any reasonable change, alteration or addition should be made in or to such building, structure, factory, shipyard, vessel, dock, wharf, pier, sawmill, or yard, with a view to safeguarding life or property from destruction by fire, or that any material should be removed therefrom with such view, or that any apparatus should be supplied therefor with such view; and if such recommendation is approved by an officer in the service of His Majesty, thereto authorized by the Governor in Council; and if notice of such recommendation and approval has been personally served upon such owner, lessee or other person; and if, after the expiration of thirty days from the receipt of such notice, such owner, lessee or other person refuses, neglects, or otherwise fails to carry out such recommendation to the satisfaction of the officer in the service of His Majesty hereinbefore mentioned, such owner, lessee, or other person shall be guilty of an indictable offence and shall be liable to a fine of not exceeding one thousand dollars, or to imprisonment for any term not exceeding six months, or to both such fine and imprisonment.

The members of your Committee represented the Association at the General Conference on Fire Prevention, which was held in

Ottawa on December 13th, 1918. The following organizations were also represented:

Canadian Fire Underwriters' Association.
Non-Tariff Insurance Companies.
Canadian Credit Men's Trust Association.
Retail Merchants' Association.
United Farmers of Ontario.
United Farmers of Alberta.
Wholesale Grocers' Association.
Canadian Bankers' Association.
Dominion Mortgage and Investment Association.
Fire Chiefs' Association.
Commission on Conservation.
Department of Insurance.

Automatic Sprinklers

As statistics compiled by the Commission of Conservation show that 65 per cent. of the fire loss in Canada has been caused by 3 per cent. of the fires, your Committee felt that steps should be taken to compel the installation of automatic sprinklers in certain classes of buildings. Consequently, your Committee submitted to the Executive Council a copy of the following resolution which had been passed at the General Conference on Fire Prevention in Ottawa in December last:

Therefore be it resolved that this Committee recommend that a law be passed making it compulsory that a complete system of automatic sprinklers be installed in every building not of fire resistive construction and not having fire-proof floors:

(*a*) When the building contains machinery and (or) stock valued at over $200,00; or

(*b*) When the building has a ground floor area over 20,000 square feet if one story high; or over 15,000 square feet if two stories high; or over 10,000 square feet if three or four stories high, or if more than four stories high; or

(*c*) When the building is used as a factory premises and having over 100 employees, and that such a system be required to be installed in the basement only of warehouses and factories having a stock and (or) machinery valued at less than $200,000, but more than $50,000.

Council, owing to the suggestion that such installation be made compulsory, referred the resolution back for further consideration. At the next meeting of Council your Committee reported as follows on this subject: "After full consideration the unanimous sense of the Committee was that any recommendation for sprinkler equipment must be considered in the light of the sources of the supply of the equipment, and that it was essential to have some control over the sources of the product before compulsory legislation would be practicable." This report was acceptable to Council.

Your Committee believes that the installation of automatic sprinklers will have more effect than any other measure to reduce the loss of life and property through fire.

Written Application for Insurance

The Dominion Superintendent of Insurance considered a proposal to amend the Dominion Insurance Act so as to require that a written application, signed by the assured, must be supplied to every fire insurance company issuing a policy, and providing that unless this application is filed with the company within fourteen days after the inception of the insurance, the insurance will be considered void. Your Committee, in view of the hardship which such an amendment would impose on manufacturers holding large numbers of insurance policies, opposed the amendment, and have been informed that the Superintendent of Insurance, who has received other protests, will not take action until the objections raised are reconciled.

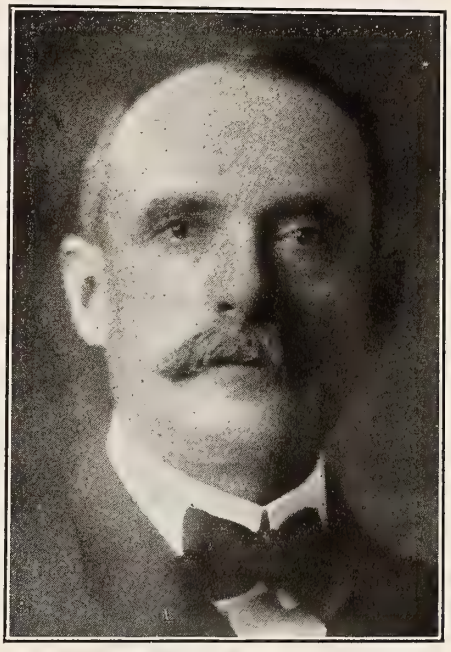
Your Committee represented the Association at a gathering held at the Parliament Buildings, Toronto, on August 30th, 1918, for the purpose of forming the Ontario Fire Prevention League, in affiliation with the Ontario Fire Marshal's Department. This conference approved of the following recommendations:

The adoption by municipalities of a standard building code, so that fire resistive building construction may be encouraged, the use of inflammable roof coverings prohibited, adequate exit facilities from buildings secured, and interiors so designed and fire-stopped as to make easy extinguishment of fires therein.

The adoption by the provinces of a minimum building code for the protection of hospitals, schools, asylums and similar institutions outside the city limits, and in small communities in which the establishment and enforcement of a building code is impracticable.

The adoption by municipalities of the "Suggested By-Laws," published by the Fire Marshal's office, providing for the systematic inspection of all buildings, for cleanliness, the removal of rubbish, the maintenance of proper exits, fire-fighting apparatus and other protective devices.

Application of the principle of common law of personal liability where a fire originates in the premises occupied by any person as a result of his criminal intent, design or wilful negligence.



B. and C. Press photo

W. H. SHAPLEY
Sterling Actions & Keys, Toronto
Retiring Chairman, Insurance Committee

Wider general use of automatic sprinkler and the more general adoption of the fire division wall.

Careful study of water supplies, fire department efficiency and possibility of co-operation among neighboring cities and towns.

Universal adoption of the safety match, and legislation prohibiting smoking in all parts of factories, industrial and mercantile buildings.

Regulation of transportation, storage and use of inflammable liquids and explosives.

Education of the public in careful habits regarding the use of fire, and prohibition of fireworks except by special license.

Statutory obligation upon every municipality to equip and maintain a fire brigade and provide a water supply.

Equipment of barns containing farm produce with standing lightning rods.

Inspection of all electric wiring throughout the province.

The work accomplished by the Ontario Fire Prevention League has been valuable, and your Committee takes pleasure in endorsing it and in recommending that similar leagues be formed in other provinces.

Representatives from your Committee attended the convention of the National Fire Protection Association, which was held in

Ottawa, on May 6th, 7th and 8th of this year. As this Association contains within its membership most of the chief organizations in the United States, besides thousands of individuals, it was most gratifying that it was induced to come to Canada this year. The Chairman of your Committee was appointed a delegate to attend this convention and to read the report of the work done in regard to fire prevention during the past year by this Association, which is also a member of the National Fire Protection Association.

Insurance Department Service

Your Committee point out that the services which our Insurance Department can give to members in any part of Canada include the examination of policies, suggestions as to contracts, confidential reports regarding insurance companies, and general advice and information on insurance matters.

During the past twelve months, according to the records of the Insurance Department, special service has been rendered to members of the Association on 294 occasions, and in that period the Department has been consulted by about 190 members. The subjects on which the Department has been consulted and the number of enquiries on each subject are as follows:

Examination of policies and policy wordings	69
Rates	60
Automatic sprinkler equipment	32
Standing of companies	30
Inspection of service	34
Insurance values	30
Construction advice	10
Boiler inspection law	22
Claim collections and adjustments	5
General	2

Industrial Group Life Insurance

At the request of a number of our members the question of Industrial Group Life Insurance was considered. Insurance companies are inclined to take the ground that this type of insurance cannot be transacted profitably under the present Canadian laws. Your Committee is carrying out instructions given by Council to ask the Government to facilitate the transaction of Industrial Group Life Insurance, but no action has resulted up to the present time.

Increase in Insurance Values

The Insurance Department, in two circulars issued in October and December respectively, drew the attention of members to the great increase in the value of property, and the consequent necessity for increasing the amount of insurance carried on such property, in order that owners might be adequately protected in case of fire. As a result of these circulars a great many members had their properties valued and their insurance increased.

All of which is respectfully submitted.

W. H. SHAPLEY, *Chairman.*
J. T. STIRRETT, *General Secretary.*
J. E. WALSH, *General Manager.*

Adoption of Report

At the conclusion of the report Mr. Shapley said: "Mr. Chairman, I have much pleasure in moving the adoption of this report. We have just heard from Mr. Roden and we have also heard recently from our Finance Minister, that the watchword of this country during the next few years must be production and saving, and why we, as citizens of this country, allow this criminal waste to go on from year to year without doing more than we are doing at the present time to prevent it, is something that I, as one of the Committee, cannot understand.

"We have heard a good deal about the quality of the men we have at the head of our Association. It is not necessary for me to repeat anything that has been mentioned this this morning, but I think it is time that our members volunteered to assist us in some of the work we are trying to carry on. I have had the honor and pleasure of being Chairman of this Insurance Committee for two years, possibly longer, and I can assure you the work is important. It is a serious situation and I know that perhaps there are men who would be quite ready to assist us in this work, but for some reason or other they are not made known to us. I think the time has come now when these men should lay aside any modesty they may have in that direction and offer themselves to the Committee on Insurance. Perhaps other committees would be glad to have their assistance as well. but I am speaking for the Insurance Committee at the present time. I would be very glad to receive the names of any persons that will volunteer their services in that way."

Administration of Fire Departments

MR. THOMAS RODEN: "As a member of the Committee I would like to second that particular report and to make one remark, and that is on the question of the better administration of the fire department. We have in the City of Toronto memorialized the Council or Board of Control to make promotions by examination and by merit. That might be done in every city, and it will have an influence perhaps on the type and character of the men who are at the head of the fire departments.

"Another feature which we have emphasized, sometimes locally and sometimes generally, is that factories should be inspected by the branch fire department, and in our own locality down east we took that matter up with the fire department, and every two months the Chief brought a certain number of men to the factories in our district and examined the condition of the factories, and he went so far as to ask for plans of the factory so that the men would become acquainted with the interior conditions and make greater progress in case a fire occurred. That is a measure of prevention and also helps to eliminate a certain amount of loss.

Sprinkler System in Factories

"One point he made, which we had under discussion, was the question of imposing upon certain factories the onus of installing fire equipment. That might seem an interference with our liberty of action, but anything that will try to encourage men to consider this feature of it is worthy of consideration. Your Committee are suggesting this for the purpose of asking you to consider the advisability of putting into operation the sprinkler system in large factories and in that way to eliminate a large amount of waste. I have much pleasure in seconding the motion."

MR. LEES (Hamilton): "With reference to page 10 of the report, may I ask a question as to these services. They are not all rendered free?"

MR. SHAPLEY: "Nearly altogether free."

MR. LEES: "Any member is entitled to the services free?"

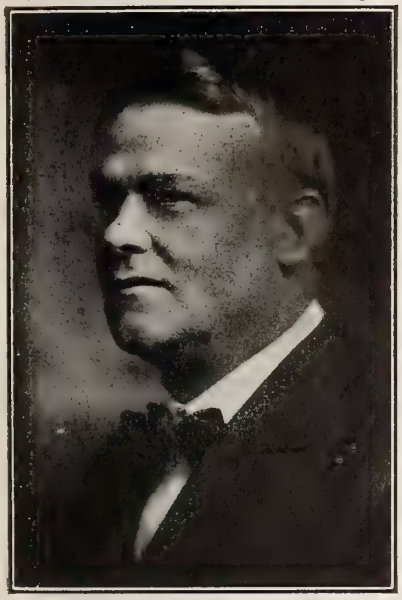
MR. SHAPLEY: "Yes."

The President put the motion to adopt the report of the Committee, which on a vote having been taken was declared carried.

Legislation Committee Reports for the Year

Much Attention Paid to the Subject of Company Licensing and Registration — Progress of the Dominion Bankruptcy Bill — Workmen's Compensation Legislation in the Several Provinces — Insurance Investigation

Report Presented by
SAM HARRIS
Chairman, Legislation Committee, C.M.A.



SAM HARRIS
Harris Litho. Co., Toronto
Re-Elected Chairman, 1919-1920
Legislation Committee

THE work of your Legislation Committee during the past year has consisted largely in dealing with important questions which have been before the Association for several years past, and in carrying out policies previously determined.

Incidental to important changes in organization and service, your Committee, after full consultation with the Executive Committee, resolved to re-organize the Legal Department, under which arrangement all correspondence with members of the Association, Government Departments and others will be conducted through the head office alone. The function of the Legislation Committee is to give attention to all legislation, federal and provincial, affecting the interests of Canadian manufacturers and to arrange for the appointment of a sub-committee in each of the provinces, whose duty it is to keep the Central Committee fully advised, and to work in harmony with it.

In view of the increasing volume of correspondence on legal and technical matters, the Executive Committee, upon a report by your Legislation Committee, has accordingly reorganized the Legal Department, and all correspondence and enquiries that should properly come before this Department should be addressed to Mr. H. Macdonald, Secretary Legal Department, who will have the assistance of special counsel as required.

Company Licensing Cases

The actions brought at the instance of the Association to test the validity of the Company Registration and Licensing Acts of Saskatchewan and Manitoba as against Dominion Companies, have been decided by the Supreme Court of Canada in favor of the provinces. Judgment was handed down last month after a delay of over a year, during which the cases were re-argued at the request of the Court. The judgments are somewhat meagre, having in view the importance of the issues. This may be because of the feeling, expressed by the Court both on the argument and in some of the judgments, that the cases should have been appealed direct to the Judicial Committee of the Privy Council. Mr. Justice Iddington made some caustic comment on the fact that private parties should have attempted to secure a decision on the Acts when the Dominion Government had failed in its efforts to this end.

Two of the five judges dissented in the Manitoba case. In the Saskatchewan case the Court was unanimous. The Saskatchewan Act, it will be remembered, required all companies, including Dominion companies, to register under the Act before carrying on business in the province. When registered, a company becomes subject to all the provisions of the local Companies Act, including such matters as the holding of meetings, election of directors, etc. The judgment shows a disposition to go the full length of the provincial contentions. No exception is made, as in the decision of the Appellate Division in Ontario, of the provisions which incapacitate a Dominion company from maintaining actions in the courts.

Provincial Decisions

The decisions in the Saskatchewan and Manitoba cases would doubtless govern in the case of the Acts of Ontario, British Columbia, New Brunswick and Nova Scotia, which require Dominion companies to become licensed before carrying on business in the province. The Acts of Quebec and Alberta at present expressly except Dominion companies. If all the provinces were to legislate to the extent of their jurisdiction as laid down by the Supreme Court decision, a Dominion company would be practically an outlaw from the moment of its birth, and would depend for its corporate rights in each province upon the provincial company laws. As the provincial licensing fees are uniformly on the same scale as the fees for provincial charters a Dominion charter would be of no practical use and would merely involve one additional incorporation fee. A provincial charter would have the advantage of giving a company the right to carry on business in at least one province.

It may be of some interest to illustrate, from the standpoint of fees, the difference between a Dominion charter on the one hand and a Provincial charter, with extra-provincial licenses on the other. Take, for instance, a company with a capital of $100,000. For a fee of $150 such a company could be incorporated under Dominion charter with the right to carry on business throughout the whole of Canada. The fee for an Ontario charter for the same amount of capital would be $160, with an annual fee of $5, but before the company could do business in any of the other provinces, licenses would have to be taken out in these other provinces and fees paid as follows: Quebec, $100; New Brunswick, $50 per annum; Nova Scotia, $10 per annum; Manitoba, $100, and $5 per annum; Saskatchewan, $120, and $40 per annum; Alberta, $75, and $5 per annum; British Columbia, $77.50; Yukon Territory, $300; making a total initial fee of $927.50, with annual fees of $115 for the privilege of doing business throughout the whole of Canada, as against an initial fee of $150 under the Dominion Act for the same privilege, with an annual fee of $5.

The decision appears to your Committee to be contrary to the principle laid down by the Privy Council in the John

Deere Plow Company case that a federally incorporated company had the right to carry on business throughout the whole of Canada, and it was worth noting that at least two of the provinces had taken the same view by exempting Dominion companies from their Acts. Though there has been great difference of view amongst the provincial authorities, none of the provinces has attempted to enact legislation so far-reaching as would be justified by the combined effect of the two decisions.

It has been suggested that the only effect of a decision against the provinces in these cases would be to call forth greater ingenuity on the part of the provinces in framing legislation which would effect the same purpose. This suggestion is based on a mistaken notion that the question is as to the power of a province to tax a Dominion company. The question is not as to the power of a province to tax. It is as to the power of a province to make the corporate status and powers of a company dependent upon compliance with the provisions of the local Companies Acts, including incidentally the payment of incorporation fees. The practical difficulty under a system of provincial licenses is that of determining what precise state of circumstances will constitute a breach of the provincial Act. A company with its head office at Toronto, shipping a bill of goods to Winnipeg, is in doubt as to what circumstances will bring it within the terms of the Manitoba Licensing Act in order to prevent the company from enforcing payment of the goods. The only way for the seller to make absolutely sure of his right would be to take out a license in every province to which he expects to ship goods, for in one case the mere delivery of goods in the province was held to constitute carrying on business in the province. It would mean that until a license was taken out goods could not be safely shipped, except c.o.d. Such a condition of things is inimical to sound business relations. The provincial scheme, if successful, would go a long way toward neutralizing the effect of Confederation in unifying the different provinces for commercial purposes. It is safe to say that under no other federal system would such a condition be tolerated. In the United States, by way of comparison, it has been held that even those companies which are incorporated under state charters are immune from this class of legislation so far as interstate business is concerned.

Meanwhile members have been circularized to the effect that if any Dominion incorporated company is called upon to comply with the Provincial Acts, they should do so under protest, pending the result of a probable appeal.

Bankruptcy Bill

Your Committee have followed with interest the course of this Bill, which, at the time of writing, has been reported by the Committee of the Whole of the House of Commons. The Bill, as it came from the Committee of the House at the last session, has been largely amended and redrafted, and many of its defects have been removed. Following the policy outlined in the report to the last annual meeting, your Committee made representations to the Government, asking that the courts for administration of the Act should be Federal Courts under some system of central control or supervision, instead of, as proposed by the Bill, provincial courts under provincial control. The chief objection to this proposal was that the creation of additional courts would involve expense which Parliament would be reluctant to authorize. Against this it was pointed out that if additional machinery and additional work were necessary under a system of provincial administration, it would equally involve additional expense. Several conferences were held with representatives of the Canadian Credit Men's Association and the Toronto Board of Trade, who urged that the Bill be adopted in its present form. It was finally decided to defer to the views of these bodies as a matter of expediency, while urging upon the Government, however, that if the system of administration suggested was not adopted, some other plan should be devised which would insure a proper control of the trustee and an accounting by him for the proceeds passing through his hands. At the time of writing this report, such provision had not been made.

Workmen's Compensation

The views expressed by the Association some years ago, when the drafting of the Workmen's Compensation Act for Ontario was in progress, are finding their justification in developments in the different provinces from year to year. It will be remembered that a special committee of the Association, representing all the provinces, laid down a general plan and drafted a bill as a model. In the degree to which the model bill of the Association was embodied in the provincial Act, it is already possible to say that the Acts in the different provinces have proven successful in their operation, not only to employers but to workmen themselves. The Act of Nova Scotia, which followed largely the Association's draft, has proven on the whole a very satisfactory measure. The Act in New Brunswick, which followed the Association's draft still more closely, with certain amendments suggested by experience in the other provinces, gives promise, with a few exceptions, of being the most satisfactory of any of the Acts now in force.

The British Columbia Act is based largely on the Nova Scotia Act, but there is one feature in which it is superior, namely, the provisions for medical aid. Adopting a scheme which has been operated in several states in the United States, the medical aid in British Columbia has been paid out of a separate fund, to which both employers and workmen contribute. This has had the effect of invoking the interest of the workmen themselves in preventing malingering and fraud upon the funds. It is to be noted that the Province of Ontario, by the amendments of the past session, has thrown the door more widely open in the matter of medical aid, which no other jurisdiction in America has dared to do. When it is remembered that the majority of industrial accidents is due not to any fault on the part of the employer but to the fault of the workmen themselves, it is patent that there is no justification for charging upon employers the whole cost of medical aid to workmen. The whole subject of pensions and medical aid to injured workmen is one which will probably demand the most careful attention of employers for some time to come. The tendency to load upon employers of labor the burden of providing for pensions of one kind or another is one that must sooner or later, if given way to, lead to disastrous consequences.

The view of the special committee of some years ago on the subject of private liability insurance has also been justified by the experience under the Manitoba Act. On the passing of the Manitoba Act the employers prevailed upon the Government to adopt a scheme of private liability insurance under provincial control instead of the scheme of group insurance which prevails in Ontario, Nova Scotia, New Brunswick, Alberta and British Columbia. The inevitable result has followed that the liability insurance companies have been compelled to raise their rates above the level of the rates of those provinces where the insurance is under Government administration. The claims of some of the administering Boards that their funds have been administered on an expense ratio of between three per cent. and four per cent. may be somewhat overdrawn, but there can be no question that, other things being equal, no system of private insurance can compete, in the

matter of economy of administration, with a system of private insurance under which the ordinary expense ratio ranges between 40 per cent. and 55 per cent.

This is not saying that it has been proven that a State-administered system is entirely satisfactory. Numerous illustrations are already available, as every employer knows, of the dangers of fraud and abuse under the State systems now in operation. It is to be feared that during the strenuous period of the last few years not sufficient attention has been given by employers to the problems which the Workmen's Compensation Acts present. It is not unlikely that a harvest of these problems will presently demand attention.

Situation in Ontario

Your Committee is not able to report any improvement in the condition of things in Ontario, which was brought to the attention of the annual meeting in the report last year, namely, the lack of co-ordination between the Workmen's Compensation Board on one hand and employers on the other, in the matter of accident prevention. The Board has, in the meantime, set up a system of merit rating based more or less arbitrarily on the results for the year. Your Committee hope that this may eventually lead to a satisfactory merit rating being evolved.

Your Committee feel that the existing relations as between employers and the Board cannot be regarded as satisfactory, but it will probably remain for employers to make proper use of their present powers under the Act in order to effect a remedy. Efforts were made by your Committee during the last session of the Legislature to secure amendments, as follows:

1. That the right of "Safety" Associations to represent their respective groups of employers before the Board be recognized.
2. That a duly appointed representative of each group of employers shall have access to the accounts of the group funds.
3. That facilities be provided for an appeal to an adequate tribunal on points of law.

A deputation of your Committee had a number of interviews with the Government, but none of the amendments asked for were granted. Your Committee report the facts without further comment.

Amendments Brought In

Amendments were brought in and passed removing the limitation of medical aid to one month, and enabling the Board to pay medical aid for an indefinite period and to an indefinite amount. The minimum monthly payments under the Act were raised from $20.00 to $30.00. Employers were placed under an obligation to provide immediate transportation of an injured workman to a hospital or to a physician or to the workmen's home. With respect to alien enemies, it has been provided in amendment that no resident of an enemy country or of a country voluntarily withdrawn from alliance with the British Empire during the Great War, or of a country in default of establishing peaceful and harmonious relations with the British Empire, shall be entitled to compensation under this Act. None of these amendments were opposed by your Committee.

A provision has also been introduced giving the principal employer right to reimbursement from a contractor or sub-contractor, for payment of assessment or compensation or medical aid furnished, to such extent as the Board finds such contractor or sub-contractor would have been liable.

The exception from the Act of persons engaged in clerical work and not exposed to hazards of the business was removed, thus bringing clerical employees within the operation of the Act. Your Committee opposed this amendment on the ground that such employees are not liable to the hazard.

The New Brunswick Act has gone into operation with every promise of success, subject to the difficulty that the constituency covered is not large enough to afford safe averages, except in a very few groups. This will mean difficulty in making proper rates, and may induce some of the employers to look for re-insurance or insurance outside of the Act. The Act has been extended by Order-in-Council, to cover the woods and river operations of lumbermen.

In Manitoba the employers were met, as already indicated, with a demand for an increase of approximately 86 per cent. in the rates charged by the liability insurance companies. The Workmen's Compensation Board allowed increases averaging about 30 per cent. on the understanding that the new rates would be subject to revision after one year.

The Manitoba Act contains the same provisions as the Act of Ontario expressly prohibiting appeals from the decision of the Workmen's Compensation Board to the Courts. By a recent decision of the Court of Appeal for Manitoba it has been held that the rule prohibiting appeals is effective only where the Workmen's Compensation Board acts within its jurisdiction and according to law. In that case it was held that, having awarded a pension capitalized at some $6,000 against an employer without giving the employer an opportunity for a hearing, the award could not stand. A similar rule would doubtless be operative in Ontario.

Other Amendments

The British Columbia Act was amended at the last session by provisions enabling the Board to reduce the scale of pensions in cases where the dependents live in a foreign country where the scale of living is lower than that in British Columbia.

A recent case in the Supreme Court of British Columbia has laid down the principle, which would be equally applicable to other provinces, that the jurisdiction of the Workmen's Compensation Board to pay compensation is determined by the place where the accident happened. In other words, the Workmen's Compensation Boards would have no right to order payment of compensation for injuries received outside the provinces.

The Nova Scotia Act was amended at the last session by making provision for medical aid for a period of thirty days. In addition to this a large number of minor amendments was made. The amending Act was discussed at a conference between the employers and members of the Government. The employers were also desirous of having certain amendments made, but owing to the present condition of industrial unrest it was thought inopportune to press these upon the Government at the present time.

An Accident Prevention Association has been formed covering all the groups of employers under the Nova Scotia Act and providing for sections or departments for the different groups. This step has been taken in complete accord with the Workmen's Compensation Board, and there is every promise of effective work being done in the coming year.

Insurance Investigation

The report of the Hon. Mr. Justice Masten, who had been commissioned by the Ontario Government to investigate laws and conditions relating to fire insurance and other classes of insurance, other than life insurance, was tabled in the Ontario Legislature at the close of the last session, and is to be considered by a Special Committee of the Legislature before the opening of the next session. This committee will have charge

of the new legislation intended to embody the findings of the Commissioner.

The services of the Association's counsel were furnished throughout the investigation, and it is satisfactory to report that the Commissioner's findings sustained the representations of the Canadian Manufacturers' Association on every important point.

The Commissioner makes various suggestions for the improvement of the law with a view to inducing greater care in the prevention of fires, and points to the fact, which is now becoming common knowledge, that the fire rate of Canada, compared with other countries, is abnormally high. The Commissioner's report is more fully dealt with in the report of the Insurance Committee.

Further, it should be remarked that by an amendment to the Criminal Code, passed by the Dominion Parliament at the present session, negligence causing fire which results in loss of life and property, as well as refusing to make alterations, remove materials or supply apparatus when ordered by proper authority, shall be deemed an indictable offence.

Uniformity of Commercial Law

Your Secretary has been for a considerable period in communication with the Canadian Bar Association with a view to securing standardization of commercial laws throughout the various provinces of the Dominion. On the initiative of the Canadian Bar Association, a Commission consisting of representatives of the Governments of the various provinces, has begun the work of analyzing certain branches of commercial law, with a view to drafting statutes for uniform adoption.

It is proposed to keep in touch with the work of this Commission, and it is possible that practical suggestions may be made from time to time which will not only be of assistance to the Commission, but of special benefit to the Canadian Manufacturers' Association. Ontario, British Columbia, Manitoba, New Brunswick and Prince Edward Island have appointed Commissions and the rest of the provinces are expected to follow suit.

Union Labels

Your Committee gave consideration to the terms of a proposed Act to amend the Trade Mark and Design Act, providing for the registration of union labels, and declined to give their endorsement. The Committee agreed that if labor unions decided to hold property and to traffic in property, it was only right that they should assume the same responsibility as other property holders and make themselves liable to the same processes of law as those to which other property holders are liable. The fact that there is precedent for the registering of union labels in the name of unincorporated unions in the legislation of other countries, particularly in the legislation of the various states in the United States, is no reason why Canada should pass such objectionable laws.

Miscellaneous

The above comprise some of the important matters dealt with by your Committee. A large number of matters of lesser importance have been the subject of consideration and action.

All the Parliamentary bills, federal and provincial, were examined by the Department over which your Committee preside, some of the measures forming the subject of review by our Secretary in INDUSTRIAL CANADA, as well as being the occasion of extensive correspondence with members.

In addition to keeping in touch with legislature activities throughout the Dominion, and endeavoring to protect the interests of the manufacturers, your Legal Department has experienced a year of increased activity in advising members in the special branches of commercial law, to which it has been devoted.

All of which is respectfully submitted.

SAM HARRIS, *Chairman.* H. MACDONALD, *Secretary.*

J. E. WALSH, *General Manager.*

Discussion on Legislation Committee's Report

AFTER reading the report, Mr. Harris moved its adoption, seconded by Mr. Shapley.

A somewhat lengthy discussion on various matters brought up in the report was indulged in by the members, of which the following is a verbatim account:

MR. SHAW (Woodstock): "Mr. President, I think that the Legislative Committee is to be congratulated upon the report that has been presented to the Association. I am strongly of the opinion that the importance of the clauses dealing with interprovincial licenses is such that this Association should deal very vigorously with them. There is no question but that under our constitution the Dominion Parliament has power over trade and commerce, and naturally one would think if a group of men obtained a charter from the Dominion Government, they would have the right to trade within the boundaries of the Dominion of Canada without restriction from the different provinces. Such, however, is unhappily not the case. We find ourselves hampered in every way by the action of the provincial legislatures. Now, there is a reason for that, and I think the reason is entirely one of fees. The various legislatures are always looking for means of raising revenue, and considerable revenues have been raised by the provinces issuing provincial charters. They get at those who take out Dominion charters by passing legislation requiring them to pay a license and other fees for doing business in these provinces.

"The provinces in the west, which are the greatest sinners in this regard, are the ones advocating free trade, and putting up all sorts of legislative restrictions and enhancing the cost of doing business, the cost of goods, by every means in their power simply to raise a little revenue from license fees. There was only one argument put forward at Ottawa before the Supreme Court that seemed to me to have real weight, and that was that an enquirer, in regard to the financial standing and *bona fides* of an incorporated company, could not make the necessary search at Ottawa and he ought to be able to get the information quickly at his provincial capital, and that was one of the reasons why the provinces took upon themselves the power to compel Dominion companies to apply for license and deposit the information at the provincial capital.

"What was their reason, what was their object, what could be their game? At the bottom of it all is the question of fees. If the provinces could get the same fees that they have derived in the past from licenses from provincial companies, I think they would be satisfied, and I don't see any insuperable difficulty in the way of inducing the Dominion

Government to enter into negotiations with the provinces whereby the fees that are paid to the Dominion Government for charters shall be consolidated and distributed amongst the provinces, if it is money they want. At all events the provinces are subsidized by the Dominion Government, each of them get so many hundred thousand dollars a year according to population. They could reckon up the revenue they have derived from these sources during a series of years past and that could be added to the subsidy that is given, instead of compelling the provinces for financial reasons to pass acts that harass and increase the cost of doing business throughout the whole of the Dominion of Canada. It is a mere matter of the provincial secretaries of the various provinces and the Attorney-General of the Dominion getting together and settling this question.

Should be Prosecuted

"We went before the Supreme Court because they wouldn't get together, and we had to have a stated case and bring it before the Supreme Court with an endeavor to get a decision. There are some members of the Association that believe possibly the Association's funds should not be spent in prosecuting this question any further, and we should not go to the Privy Council. Well, I am one of those who think we should prosecute it further unless we can get the provincial and Dominion authorities to collaborate together and solve the difficulties themselves.

"I don't know that I have anything more to say on that point, Mr. President, unless it would be to give notice that I would move a resolution that before the convention ends, that the Dominion Parliament and provincial legislatures be memorialized to get together and solve this difficulty of interprovincial trade. It is true, as Judge Iddington said, that even in the small country town a peddler can't go in and peddle goods without going to the town council and getting a license, and a province has the right to do the same thing, but that is on a different basis. They are retail merchants doing business and this man is retailing from door to door, but large companies in this Dominion that have Dominion charters which give them the right to do business from the Atlantic to the Pacific and from the 49th parallel of latitude to the Arctic Ocean should not be restricted by provincial legislation simply for the purpose of raising revenue, a revenue that could be got from other sources without the anxiety and worry that it places upon business."

Only Pay Same Fees

MR. J. F. ELLIS: "Mr. Chairman and Gentlemen,—The provincial governments of the different provinces are not asking any of us that wish to do business in other provinces to pay the fees their own local companies are now paying; they are not asking us to pay a license for selling goods in other provinces by travellers. If we send a traveller into Manitoba, he is not called on to pay a license. He can sell all the goods he likes and we can sue for and collect the amount. All they ask of us is, if we are domiciled in a province, if we have a warehouse in a province and carry on business from that warehouse, that we pay the same fee as a company incorporated in that province has to pay by law. That, I believe, is all we are asked to do. I am open to correction.

"We have a place of business in Manitoba and we have to pay the same license for doing business in Manitoba as Bulman Bros., of which company our president is chief. We have the same to pay in Alberta and British Columbia, and we pay a fee in Ontario. Thsee fees are not very heavy. They have been very moderate in their charges. We have spent thousands of dollars already in fighting these cases; we have carried one or two to the Privy Council and we have lost. This one, I am fully convinced, after reading all the decisions of the different judges, we will lose if we carry the present case to that court, and I think it would be very unwise for us to spend any more money in that direction. If we were penalized and asked to do something that no competitor in each of these provinces was called on to do, there would be a grievance, but under the circumstances I don't think we have a grievance. They ask us to pay a license fee for carrying on business in each province, and they enact certain penalties if we don't pay that fee. They have got to do that. You make a law and, if you have no penalty attached to it and a man thinks it is unjust, he will not carry it out. So that I think it would be a mistake, and I think the membership should carefully think the matter over so



H. MACDONALD
Secretary, Legal Department, C.M.A.

that when they send in their opinions to the Legislative Committee we will know how to act for the great body of the Association."

MR. COCKSHUTT: "I believe the Association has spent about $25,000 on this case, and, even if we were to go to the Privy Council and get a favorable decision, I understand the provinces will pass some law which could overcome it. I also understand the Dominion Government is favorably disposed towards carrying on this thing in their own name. We have no real assurance that they will do so, but if they don't do something it stands to reason nobody will take out the Dominion license. I agree with Mr. Ellis. I believe it would be well if we could put it on to the Dominion Government to get them to carry out the terms, but I can't see that it would do any good to go to the Privy Council."

MR. SAM HARRIS: "Your Commitee have under consideration the very thing that has been spoken of. There are negotiations on at the present time where we hope the Dominion Government will carry this on. Your Committee feel the Dominion Government should validate their charters or quit issuing them, and I think, if you pass this on to the incoming Legislation Committee, you will find that they will carry

on to your satisfaction, and not be foolish enough to go and spend your money where it won't bring returns. I think it would be folly to pass upon it at the present time when the negotiations are on with the Dominion Government."

Provinces Have the Rights

MR. DAVIS (Newmarket): "I was just rising to say a word or two with reference to the question we have been discussing, the legality of charters, etc. I was a member of the local Legislature for a long time, and even in those days this matter was considered. In my early days we had one of the best lawyers on that class of cases in the Government and he stated then we would fight for the rights of the province to issue charters. He said it was our right and within our jurisdiction, and it is now turning out, after all the appeals to the courts, that that view is correct. The provinces have the right to levy taxes. I think there is no question at all that the position is one that is proper and right. I also agree, if the Dominion and local Governments could meet and talk this matter over and try to arrange some basis which would be in the interests of interprovincial trade, in which we are all interested, every province, as well as the Dominion of Canada, they ought to arrive at some safe, reasonable, fair and equitable division to work this thing out in the future. I don't believe we will gain anything by spending money going to the courts any further.

"May I say one word or two on the Workmen's Compensation Act? We, as manufacturers, from the time it was inaugurated and the Act placed under the jurisdiction of a Board appointed by the Ontario Government, have been very anxious at all times to do everything that was proper and right in the interests of the workingmen in connection with accidents. There are one or two phases in connection with the working of the law now which I think we ought to bring more to the attention of the members and also to the attention of the public generally and to the attention of the workingmen themselves. There is one phase of it where certain firms give bonuses at the end of a business year to employees whom they consider have been very faithful, have displayed initiative and good judgment and perseverance in adding to the production of the plant, and they want to show their appreciation to these men. They pay that bonus in addition to their salaries for this special reason. Now, the Workmen's Compensation Board in the last year or two, whether it is a change in the Act or exactly how it came about I don't know, but all those bonuses that are given by these progressive firms who are doing everything they can to assist their employees who show a willingness to use their brains in their business, these firms are taxed on them upon the compensation rate. I think the workmen themselves ought to stand behind us and object to any such course as that. I don't think it is proper or equitable or right if you want to do something specially for your men for this reason, that this Board should tax you because you do that.

Access to Accounts Wanted

"Another thing is this suggestion of a duly appointed representative of each group of manufacturers who shall have access to the accounts of the group funds. I think this is very important. I find in our group, according to the last notice we got, that our rate for the year is between four and five times higher than it was previous to the inauguration of this Board. We are all trying to make our plants better, and why this increased amount we are asked to pay should be required is beyond our comprehension. I think we have a perfect right to this access; the money is our own; we pay it; it is paid arbitrarily; we have no voice in the matter at all, and I do think it is only the reasonable and proper thing that we should have a committee appointed from each group that could go and find out exactly how the matter stands for their group. They might be able to give the Board a great deal of information that would be of value to them by examining these accounts and seeing exactly where this money is paid. I think we have a right to know where our money goes. There is not a municipality in Ontario that does not publish an abstract of all the accounts and every cent that is expended for every item during the whole year, and the people would not stand for it if they hadn't a right to have an abstract of these accounts and be permitted to examine them and make any criticism if necessary, or approve of them if no criticism were needed. I would like to ask why a Board like the Compensation Board should be in a position that they can cover up these accounts and we cannot find out how much is paid to each firm. I have no objection to having printed and published in a statement the amount of money paid by my firm to this Board and the amount of money received by the employees working for me from the funds of this Board. I think that should be done. I think it is a serious matter and it is one that would help the Board in many ways towards reasonable economy. We don't want to waste any money; it all comes out of the cost of the goods manufactured in this country, and the high cost of living is one of the reasons to-day, and all these things are going up and up and an additional charge being made upon the manufacturing industry ought to be examined into thoroughly. I do hope the Board will be reasonable and allow examination and publish full details of all expenditures in connection with that Compensation Board."

Manufacturers Have No Say

MR. HENDERSON (Windsor): "The point raised by Mr. Davis is a very important one. There is an old saying as true to-day as ever, 'No taxation without representation.' The manufacturers of Ontario are taxed and taxed heavily, but they have no say whatever in the administration of the money paid by them as compensation for workmen. A report was circulated, whether maliciously or not, that the Manufacturers Association were opposed in Ontario to the Workmen's Compensation Act, but I am sure everyone here knows that no body of men did more than the Manufacturers Association to try and get a workable Compensation Act, recognizing the fact that workmen were entitled to compensation and wishing to do away with the difficulties which pertained to the old law. At the same time it seems very hard that this Court, which I understand has powers not possessed by any other court in the British Empire, should expend the money and give no account. There is at the present time I understand a refund made to certain concerns where the accidents are below a certain limit. That is all very well as far as it goes, but is it fair that one in a group should be penalized because another firm in that group will not take proper precautions to prevent accidents? I brought this matter to the attention of the Chairman of the Board, and he said they had no power to appoint inspectors. I think that they have and it seems to me something should be done to amend the Act so that safety inspectors could be appointed with power to go into any plant under certain restrictions and say that such and such is dangerous and, if that is not carried out, the employer or owner of the factory ought to be punished or made amenable to the law in some way or other.

MR. J. F. ELLIS: "Might I ask Mr. Davis if he ever wrote the Workmen's Compensation Board asking them to tell him how much it amounted to—the accidents he had paid for in

the current year? They tell me they will do that with any man that pays any fee—any manufacturer."

MR. DAVIS: "In reply to Mr. Ellis, we keep a complete account showing the amount of money we pay in and also a record of all the money received by any of our employees and it is balanced every year and we know exactly what has happened ever since that Act was inaugurated, and there is no difficulty in getting a statement from them which will harmonize with the statement we have. But, that is not my point. My point is that as to the money that is paid in there, which is millions of dollars per annum; each group have a right to know how much was received from each individual in that group and how much was paid back to each individual in that group, in order that they may know exactly where this money is being spent in connection with this Act."

MR. J. F. M. STEWART (Toronto): "I agree with Mr. Davis that full details of the receipt and expenditure of this money should be published, but there is a very great opposition on the part of some manufacturers against it being published. The moment that you publish the amount of money that you pay into the Workmen's Compensation Board you tell every other man in your same line of business the exact amount of your pay roll. To myself, I don't think that means anything. I think we are getting away from the point that it should be kept secret, but that is one of the reasons why it has not been published. The Workmen's Compensation Board will give to any man that goes up there full details regarding moneys received and paid in their industry.

"Within the last three years in one of the industries I am connected with, our rate was increased very materially, and we naturally wanted to find out the reason. We were provided with statements for the last two years showing exactly what each industry was assessed in that group and what they had paid in and what the employees in each industry in the group had taken out of it, and after we got that statement there was no argument at all. The Board had to get the money because they were paying it out; and I understand, Mr. Chairman, that that information is available to any representative body of employers who want it.

Inspectors are Appointed

"In regard to what Mr. Henderson said, the Workmen's Compensation Board at the present time do appoint inspectors, and that is about the only branch of the business that we have been able up to the present time to keep out of the direct control of the Government and the Workmen's Compensation Board. The Workmen's Compensation Board at the present time appoint inspectors, but they appoint them on the recommendation of the Industrial Safety Organization in the Province, and this organization has a paid secretary who is paid out of the general funds, and this paid secretary controls the inspectors, and these inspectors are handled just the same as you men handle your commercial travellers.

MR. W. H. SHAPLEY: "Mr. President, this is an important matter I think in connection with the Compensation Act, and one that I think we have been overlooking quite a long time. Mr. Davis has already told us that it is the manufacturers who are paying all this large amount of money that is being handled by the Compensation Board every year. Now I believe it was a matter that was overlooked when this Board was being formed. Perhaps there were too many other things to be attended to at that time, but I believe the most important thing is that we should have a representative on that Board. The Board, as composed at the present time, appears to be a pretty close corporation and it is very hard to get the information we would like to get from them, and I believe, on account of the manufacturers paying the whole amount of money that is being collected and distributed in this way, we have a right and we should demand our right to have our representative on that Board. In discussing this matter with some others a short time ago it was claimed if the manufacturers asked for a representative on the Board, the labor people would ask for a representative too. I don't know that I would object to that."

MR. SAM HARRIS: "Mr. Chairman and Gentlemen,—Mr. Stewart mentioned that there was an organization which was called the Safety Association, but some of those who are taking an interest in the working of these Associations believe that they are not operating as effectively as the expense warrants. To be sure they have a secretary and we have; they call themselves safety engineers; we call them factory inspectors. I think the expense during the year that is charged up to the employers in the different groups, not including lumbermen and two others, is somewhere around $25,000. The work of these inspectors is practically work that overlaps the Ontario factory inspectors. The work is no better and no more efficient as far as I can see. Therefore, some of us contend they should either do better work or abolish the Department and save the $25,000 that comes directly out of the manufacturers' pockets as against the expenses and salaries of the factory inspectors that come out of the labor department. I hope the coming year may see something done on that.

Want Information as a Right

"With regard to any information that you might get from the Board, which Mr. Stewart happened to mention, it is now by courtesy; we want it by right. When you go up and ask for it, you get it if you are good, and you don't get it if they don't want to give it to you. We want it by right, and as Mr. Davis says these safety associations in their expenditure should be able to check up the results of the cost. By doing that, you will get somewhere, but if you are spending and you have no chance of checking up the matter, how can you possibly get the best results?

"I want to draw your attention to one right that they claim, and that is the powers not possessed by the body that created them. In the Government of Ontario every dollar that comes in is criticized, not only in committee, but can be criticized in the House, yet they grant powers, or they claim the powers are granted to the Workmen's Compensation Board that they shall be free from criticism of the moneys paid in and out. That seems to me absolutely against the law, and I think it could be upset, but your Committee has endeavored to work with the Workmen's Compensation Board and the Government in getting a good Workmen's Compensation Act; and during the trying times of the war we had no desire to put anything in their way that would hamper them in the carrying out of that. You will notice in the report the Committee states we have some rights that we will probably exercise. That is regarding these very items."

The question was called for. The President put the motion to adopt the report which, on a vote having been taken, was declared carried, and the report adopted.

The Legislation Committee has discussed with the Department of Justice the question of proceeding further with these cases, and the Dominion Government have expressed their willingness to carry an Appeal to the Privy Council at the Government's expense. It is hoped that in this way the position of Dominion companies will be defined for all time.

Report of the Transportation Committee

Careful Review of the Year's Developments in the Field of Transportation—Export Trade Facilities—Freight Classification and Rates—Special Services and Arrangements and Other Transportation Matters

Presented by

W. R. BREYFOGLE

Chairman, 1918-19, Transportation Committee

DURING the past year your Committee has given close attention to the general transportation situation, and begs to report as follows:

Government Ownership or Operation.—In Canada the Government was obliged to take over the Canadian Northern Railway. It, together with the Canadian Government System (the old Intercolonial Railway), has been incorporated under the name of the Canadian National Railways. Although the suggestion was made at the time the Bill of Incorporation was before Parliament, that all receipts from operation of the system should be paid into the consolidated fund, and the expenditures charged thereto, the Minister of Finance took the position that the system should be operated as a separate entity. It is believed that this action will receive the general endorsement of the public.

There are two other features of the Bill which are of importance. First: Section 14 places the operation of the system under the control of the Board of Railway Commissioners. Second: Section 15 gives the public the right to sue the railway in any court of competent jurisdiction, as well as the right to appeal to a higher court. The Bill also provides for the taking over of other railway companies.

In taking the above action your Committee believes that the Government has demonstrated a desire to remove the operation of these properties, as far as possible, from political interference.

Briefly, the Canadian National Railways will be operated to all intents and purposes as a private company, the public to have the right of appeal to the Board of Railway Commissioners and to the courts, as previously outlined. Both these rights were denied in the case of the Canadian Government Railway System.

Position of the Grand Trunk

The Grand Trunk Pacific Railway is now being operated under a receivership appointed on application of the Government, the latter being the chief creditor. It is fully expected that the road will be taken over as part of the Canadian National Railways.

Whilst nothing definite has been announced in respect to the Grand Trunk Railway System, the general belief prevails that it also will be purchased by the Government, in which event it will be merged in the Canadian National Railway System.

As far as the Canadian Pacific Railway is concerned, it stands in an entirely different position. There is no substantial reason why it should be interfered with, in fact the reverse is the case, and it was recommended in the Report of the Royal Commission on "Railways and Transportation in Canada," published in 1917, "that the status of the Canadian Pacific Railway should be left undisturbed." Competition is absolutely necessary in order to secure proper and adequate service. Furthermore, the Canadian Pacific Railway Company has proven, beyond doubt, its ability, not only to compete but to lead in the transportation world. It has probably assisted to a greater extent than any other agency in building up Western Canada.

Your Committee trusts that the Convention will carefully consider the resolution which will be submitted at the proper time bearing on this question.

In the United States the question is altogether different. Notwithstanding the large increases allowed in rates of all kinds, there has been a heavy deficit in net operating income since the Government assumed control. Walker D. Hines, Director General of Railroads, United States Railroad Administration, stated that the solution of the problem was the return of the properties to their owners at the earliest possible date, which will probably be the 1st of January, 1920.

Enormous Increase in Costs

Cost of Operation and Maintenance.—There has been an enormous increase in the cost of operation and maintenance in the past few years, particularly in the matter of wages in 1918. The placing in effect in Canada of the McAdoo Award, together with its various amendments, has increased the wages of railway employees by approximately $67,000,000. An application is now pending for revision of wages in the Locomotive and Car Departments of the railways, which, it is estimated, will add, approximately, $19,000,000 per annum to the present payroll. In addition, it has been estimated that increased expenses, owing to increased cost of railway materials, represent $14,000,000 for the present year. The increase of 25 per cent. in freight rates has been estimated at $43,000,000. This, however, is based on the volume of traffic handled in 1917. As there has been a great falling off since the signing of the Armistice, this figure may not be representative.

The placing in effect of the McAdoo Award in the United States increased the wages by over $800,000,000 for the year 1918. The net operating income for the same year was, approximately, $750,000,000. Under the Railway Control Bill the Government guaranteed a return of approximately $950,000,000. From this it will be seen that the net operating income fell short of the guaranteed return to the extent of some $200,000,000. In this connection the fact should also be considered that there has been a great falling off in traffic since the signing of the Armistice.

Export Trade

Steamship Service.—During the war the various services from both the Atlantic and Pacific Coasts were greatly disorganized, owing to the requirements of the Imperial Government in handling troops, munitions and supplies for the armies of the Allies. To certain countries, however, such as New Zealand, Australia, South Africa and the West Indies, commercial traffic was maintained to a limited extent. During the past year, due to the cessation of hostilities, some of the vessels have been returned to their former trade routes. There are to-day services between Canadian Atlantic ports and the United Kingdom, France, New Zealand, Australia,

South Africa and the West Indies, also between Pacific Coast ports and New Zealand, Australia and the Orient. A service has recently been inaugurated between Canadian Atlantic ports and the Eastern Coast of South America. The number of vessels in these services, of course, is considerably smaller than prior to the war, except, perhaps, to the West Indies. In so far as vessels are concerned, this service is normal.

Space on Ocean Vessels.—Representations were made to the Imperial Government through our Government for space on vessels to carry commercial traffic, as a result of which the British Ministry of Shipping allowed, in January last, 10 per cent. of available space for this traffic. For February this was increased to 30 per cent., and for a short time in March to 50 per cent. However, it was found that the British Ministry of Shipping required more space, and the amount was reduced to 30 per cent. This caused a congestion of both British Ministry of Shipping and commercial traffic.

The question has been taken up with the Government and from present reports it is believed that the situation will be relieved somewhat in the very near future.

Inland Rates.—General Order No. 28, popularly known as "McAdoo's Order," allowing a 25 per cent. increase in rates in the United States, required the railway companies to cancel all import and export rates. Representations were made to the Government, as a result of which this Order was modified. Order-in-Council P.C. 1863, allowing a similar advance between points in Canada, however, did not require cancellation of these rates. The judgment stated that the Canadian rate structure and traffic conditions did not permit similar action. The export rates, therefore, were adjusted to the ratio of the rates from United States points to Atlantic ports, as required by a former order of the Board.

Import rates were similarly dealt with.

Reductions in Rates

It will be seen that in so far as these rates are concerned, the Canadian manufacturer is in the same position as the American manufacturer in contiguous territory.

In order to move traffic to the Orient, New Zealand and Australia via Pacific ports, reductions were made on February 21st in the export rates from Eastern United States points to Pacific ports, the Canadian lines taking similar action, effective April 25th. These reductions were quite material on some lines.

Ocean Rates.—These rates declined considerably shortly after the signing of the Armistice, and by February 1st had reached $1.00 per hundred pounds, or 50c. per cubic foot, to United Kingdom ports. However, owing to the fact that only 30 per cent. of space was available for commercial traffic, some lines have since quoted and received $1.50 to $2.00 per hundred pounds, or 75c. per cubic foot. It is expected that this situation will be relieved in the course of the next few weeks.

Documents.—The question of reinstating the joint rail and ocean bill of lading was taken up with the carriers, but they could not see their way clear to its reinstatement. The difficulty seems to be that delays are likely to occur at the seaboard, and neither the railway companies nor steamship companies wish to take responsibility for demurrage. The carriers and steamship companies have had the matter under consideration, and from recent reports it would appear that this form of bill of lading will be put into effect at an early date.

Trade with Newfoundland.—While this traffic is not considered as export from a transportation standpoint, so far as the Canadian manufacturer is concerned, Newfoundland is an export market. A great deal of difficulty has been experienced by members in shipping goods to this country, owing to the fact that facilities are inadequate. Representations have been made to the Government, the railways and the steamship companies, and assurances have been given that the question will be given immediate attention by all concerned.

The Department of Trade and Commerce has announced that, effective June 1st, a new steamship service will be inaugurated between Montreal, Quebec, Charlottetown, Sydney and St. John's, Newfoundland, the steamer to make two trips per month. This should assist in handling traffic to Newfoundland.

Freight Classification

Applications for Changes in Ratings, Rules, etc.—During the year a great number of applications have been dealt with



W. R. BREYFOGLE
De Laval Co., Limited, Peterboro
Retiring Chairman, Transportation Committee

by the Department. Those dealing with the following commodities have been disposed of:

Alimentary Paste.
Asbestos Cement.
Asphalt Shingles.
Bumper Guards or Rails.
Coal Chutes.
Cobblers' Outfits.
Corkwood and Corks.
Cultivators (hand).
Dummies or Forms (dress).
Graphite.
Ice Cream Cones.
Kalsomine.
Phonographs and Furniture.
Pole Line Hardware.
Prepared Poultry Food.
Rubber and Rubber Goods.
Soap (common).
Staples (wire).
Stove Putty.

Those still under consideration are as follows:

Boots and Shoes (rubber).
Cocoa Butter.
Filing Cases and Supplies.
Jams and Catsup.
Ladders, Swings, Baking and Ironing Boards.
Leather (artificial).
Machines (meat or food cutting or slicing).
Pump Jacks.
Sesqui Carbonate.
Specifications for loading and bracing sewerpipe on flat cars.
Trunks, nested.
Vegetables (dried).
Vehicles (self-propelling on flat cars).
Washing Machines (with water motor).

Proposed Changes in Ratings, Rulings, etc.—In the past year the carriers submitted one supplement to the Board of Railway Commissioners for approval. This is known as proposed supplement No. 12 to Canadian Freight Classification

No. 16. A number of advances mentioned therein, covering the following commodities, have been satisfactorily dealt with:

Carboys, empty, returned.	Oil Cloth.
Ice Cream Cones.	Paper Boxes.
Leather.	Wooden Boxes.

Proposed Classification No. 17.—During the past year this question has been taken up by the carriers with certain Boards of Trade throughout the West, and it is understood that some agreements have been entered into. However, both the Board of Railway Commissioners and the carriers have assured the officials of the Association that the question will not be disposed of in any way without first giving all those interested an opportunity of presenting their views in regard to the different changes contemplated.

It is understood that the carriers have in mind withholding action on this question until a decision is arrived at in the United States covering what is known as the "New Consolidated Classification."

New Consolidated Classification in United States.—The so-called "Consolidated Classification" in the United States has been considered at hearings before the Interstate Commerce Commission at various points throughout the United States, and hundreds of briefs have been filed on behalf of the shipping public and the carriers.

From information received, it is believed that the Interstate Commerce Commission cannot possibly render a decision in regard to this question until late in 1919, and that the new Classification will not become effective, therefore, until some time in 1920.

25 Per Cent. Increase in Freight Rates

The United States Railroad Administration, by what is popularly known as the "McAdoo Award," granted an increase in the wages of all railway employees. This increased the payroll of all roads operated by the United States Railroad Administration by several hundred millions of dollars. The Order was based on an investigation made by the Railroad Wage Commission, appointed by Order No. 5, made by the Director General of Railroads. To secure the revenue with which to pay this increase in wages, the Director General of Railroads issued Order No. 28, placing in effect a general increase of 25 per cent. in freight rates between points in the United States. It is true that some of the increases were not as great as 25 per cent., but there were others which were greater, so that on an average the increase was 25 per cent.

Following these Orders, the Canadian railway employees presented demands to the Canadian railways, asking for the adoption of the "McAdoo Award." The railway companies accordingly approached the Government and placed before it a statement showing that they were unable to meet the increases demanded without some financial aid. The Government thereupon requested the Board of Railway Commissioners to examine the question with a view of deciding what should be done. At that time, as is well known, the war was in progress, and it was absolutely essential that a strike should not occur on the lines of the railway companies. The Board recommended that in order to meet the demands of the railway employees, a general increase of 25 per cent. should be made in rates between points in Canada, along the lines of the advance made in the United States. Acting upon this suggestion, the Government issued Order-in-Council P.C. 1863. The Order disallowed the former increase of 15 per cent. in rates between points in Western Canada. Therefore, so far as points in Western Canada were concerned, the increase was 25 per cent. over rates in effect prior to March 15th, whereas in the East it was approximately 40 per cent. over rates prior to that date. The increases took effect August 12th, 1918, after a very short notice.

Since the Order was issued a hearing has been held in regard to the rates on sugar, and the Board recommended to the Government that certain modifications be made in the rates on this commodity until after the war. Order-in-Council P.C. 2080 was accordingly issued, making reductions from the rates ordered in P.C. 1863. Recently the matter was again reopened on the grounds that changed conditions warranted a return to the basis as ordered by P.C. 1863. The Board of Railway Commissioners held a hearing and issued a Judgment recommending that Order-in-Council P.C. 2080 be rescinded.

In regard to rates on clay and sewer pipe, the railway companies, in publishing their tariffs, advanced these rates by an arbitrary amount of 1c. per 100 pounds, whereas Order P.C. 1863 required that they be advanced 25 per cent. The question was taken up with the Board of Railway Commissioners, and an order issued requiring the railways to carry out Order-in-Council P.C. 1863.

Freight Rates

Joint Rates between C.N.R., C.P.R. and G.T.R.—This question, which has been before the Board of Railway Commissioners for some time, has not as yet been dealt with by that body. It is understood, however, that it is being held in abeyance pending the completion of the organization of the Canadian National Railways.

Transcontinental Rates.—A readjustment of rates affecting traffic moving from points in Eastern Canada (east of Port Arthur) to Pacific Coast points, became effective on August 1st. This readjustment meant a considerable increase in rates, but was made necessary by increases and readjustment of the basis in the United States.

For a number of years the rates from Eastern Canada were made by adding arbitraries to the current rates applying from Chicago to Seattle. The new rates referred to above are on a slightly different basis, brought about by the change in basis of rates from points in the United States (East of the Missouri River) to United States Pacific Coast ports. Prior to March 15th, 1918, rates from points in the United States, East of the Missouri River, to North Pacific Coast terminals, were made on a blanket system—that is, the same rate applied from New York as from Chicago. After March 15th this was changed and the territory East of the Missouri River was divided into groups, the rates from Missouri River points being the basis, and arbitraries were added to make rates from points East thereof. In revising similar rates between points in Canada, this new condition had to be taken into consideration. The territory was divided into three groups, the first one covering points as far east as Montreal, the second, Montreal to Quebec, and the third the Maritime Provinces, or, generally speaking, the groups were Toronto-Montreal, Sherbrooke-Quebec and St. John-Halifax. From the Toronto-Montreal group the rates were made the same as those applying from Buffalo to Seattle. Rates from the Sherbrooke-Quebec group were made half the difference between rates from the St. John-Halifax group and the Toronto-Montreal group. Rates from the St. John-Halifax group were the same as those applying from New York to Seattle.

New Rates Checked

These new rates did not include what are known as "class rates," as the latter have been on a purely Canadian basis since 1914, not being related in any way to American rates.

A proof of the Canadian tariff was submitted to the Department prior to publication, and a complete check was made of the new rates. A great number of errors were

found, and reported to the Railway Commissioners and the carriers, after which a conference was held and the discrepancies corrected.

Specific Commodity.—A great number of rates on different commodities were dealt with during the year, and satisfactory adjustments arrived at. Some of the commodities, together with a brief description of the territory covered, are as follows:

Fire Brick from Clayburn, B.C.
Coal from Minto, N.B. to Fredericton, N.B.
Extract (Tanners) from Southern United States to Canadian points.
Ferro Silicon from Welland, Thorold and Shawinigan Falls to Canadian points.
Fertilizer from Ontario points to Maritime Province points.
Glass Bottles from Wallaceburg, Hamilton, Montreal, Toronto, to Canadian points.
Hides from Montreal, Toronto, etc., to Eastern Canadian points.
Iron and Steel from Pittsburg, Pa., to Eastern Canadian points.
Doors, Sash and Trim from Midland to Western Canada.
Leather from Huntsville, Acton, Bracebridge, Kitchener, etc., to Toronto.
Lumber (Tan Bark) from various Canadian points to various Canadian points.
Pulpwood from Halifax & Southwestern Railroad to Liverpool, N.S.
Paper from Crabtree and Beauharnois to points in Western Canada.
Sand from Brockville, Ont., to Buffalo, Detroit and Canadian points.

In many cases the adjustment of rates on these commodities meant a considerable sum of money to the manufacturers interested. For example, the rates on fertilizers were reduced 1½c. per hundred pounds. A large tonnage of this material moves between the points mentioned.

Rates on pulpwood to Liverpool, N.S., meant a saving of approximately $1,700.00 on the quantity of wood ready to move at the time of the readjustment, and, of course, all future shipments will enjoy the lower rates.

Special Services and Arrangements Incidental to Transportation

Milling-in-Transit of Grain.—The Canadian Pacific Railway, both East and West, and all other lines in the West, proposed to advance their milling-in-transit charge from 1c. to 2c. per hundred pounds, effective November 1st. Interested members objected to the increase, asking the Board to postpone the tariffs, and require the railway companies to justify the advance. In March, 1919, the question was heard at Winnipeg, when the Association was represented. The carriers submitted statements and figures in an attempt to show the alleged cost of the service. A brief is to be filed on behalf of interested shippers in connection with carriers' presentations. It is estimated that the increase would amount to $300,000 per year.

Interested members will recall that, effective November 1st, 1917, the Board required the Canadian Pacific Railway to reduce the stop-off charge in Eastern Canada to 1c. per hundred pounds for milling western grain, ex-lake, in transit. In the early part of 1918 the Dominion Millers' Association filed an application with the Board, requesting them to require the Grand Trunk Railway and other carriers in Eastern Canada to make similar reductions.

Dressing, Sawing, Kiln-drying or Sorting of Lumber in Transit.—Carriers submitted revised regulations covering this service, which contemplated an advance in the stop-off charge from 1c. to 2c. per hundred pounds, and a change in the regulations. Interested members have been advised, and have drawn up a memorandum of objections, which has been submitted to the carriers. A meeting is to be held in the very near future to dispose of this question.

Refrigerator and Heated Car Service.—An attempt has been made in the United States to make uniform charges covering these services, and consolidate them into one tariff. This desire for uniformity has also led them to increase certain of the charges.

The railways in Canada proposed to discontinue the practice of supplying interested shippers with information as to the amount of ice and salt supplied at each icing station. The matter was very thoroughly gone into, and it was decided that the service should be continued, as it was absolutely necessary, and was of assistance to the carriers as well as the shippers.

An increase has been made in the charge for ice and salt supplied to refrigerator cars by the carriers. The charge



BURTON S. HARRIS
Massey-Harris Co., Limited, Toronto
Chairman, 1919-1920, Transportation Committee

for ice at all points east of the Rocky Mountains is now $4 per ton, and the charge for salt 75c. per hundred pounds, and west of the Rockies, $5 per ton for ice and $1 per hundred pounds for salt. The minimum charge for ice supplied, however, has been set at $2.

The carriers also proposed to discontinue supplying meat hooks in refrigerator cars. The question was considered, and adjusted to the satisfaction of all concerned.

Minimum Weights

The Canadian Railway War Board, on behalf of the carriers, submitted to the Board of Railway Commissioners a proposal to make a general increase in the minimum weights of commodities moving under what are known as "commodity rates." Before any action was taken on this application, however, the Board required that a copy be sent to the Association, and the matter discussed with a view of finding what effect the new minima would have. The question was then taken up with interested members, and their objections obtained, after which a meeting was held with representatives of the carriers, and the original proposal modified to meet the

views, as nearly as possible, of all concerned. A number of the commodities covered by the increases were as follows:

Bleaching Powder.
Canned Goods.
Cooperage Stock.
Cotton and Woolen Mill Sweepings.
Grain and Grain Products.
Iron and Steel.
Leather Scrap.
Linseed Oil.
Metallic Shingles.
Paper.
Petroleum and Petroleum Products.
Pig Lead.
Iron Pipe and Fittings.
Salt.
Starch.
Stone.
Sugar.
Tankage.
Wallboard.
Wire and Wire Nails.

In agreeing to the advances, it was clearly pointed out to the Board that interested manufacturers were doing so on account of the conditions existing at that time (July, 1918), and that it might be necessary to go to the Board, after conditions changed, asking for a reduction in such minima.

Engines and Threshers Requiring More than One Flat Car.—A proposal to withdraw special minimum weights on shipments of engines and threshers requiring more than one car when shipped to points in Western Canada, was abandoned by the carriers after consultation with interested members.

Demurrage

Application for Reduction in Rate to Former Basis of $1 *per Day.*—An application was submitted to the Board of Railway Commissioners for a reduction in the charge of demurrage to the former basis of $1 per car per day. So far the Board of Railway Commissioners has not dealt with the application.

Average Agreement.—It will be remembered that in dealing with the present demurrage regulations, the Board stated that no decision would be given in regard to what is known as the "Average Agreement" until after the war. It was felt by your committee that the time had arrived when this matter should be considered, and a request was accordingly made on April 2nd, 1919, that a decision be rendered. The Board has not as yet taken the matter up, but it is believed that a further hearing will be held, after which a decision undoubtedly will be given.

General.—The question of free time on export traffic and track rental charges on private tank cars were also considered.

Terminal Facilities and Services

Local Switching.—The carriers submitted to the Board of Railway Commissioners, in November last, a proposal to revise their local switching rates. The revision contemplated the establishment of specific switching rates on certain commodities between defined sidings at rates higher than those formerly in effect. On all other traffic, including traffic moving between team tracks, they proposed to charge the regular line-haul rate on the commodity and quantity shipped. This meant an enormous increase in some rates. The Board was successfully appealed to for postponement of the proposition. Conferences were arranged between carriers' and shippers' representatives, resulting in a great number of special items being agreed to by shippers directly interested. A hearing was later held before the Board, at which the Association strongly objected to the principle of charging line-haul rates for local switching movements. At the close of the hearing the Chief Commissioner intimated to the carriers that the proposition should be abandoned. However, the carriers have since filed further proofs containing the objectionable clause, and suggesting that the Board allow it to become effective. The matter is before the Board for decision at the present time.

Interswitching.—The new interswitching order issued by the Board of Railway Commissioners, and known as General Order No. 252, was made effective by the carriers in tariffs filed by them on January 1st, 1919. The clause in the former Order (General Order No. 230), preventing owners of private sidings from routing their own freight, following representations made by the Association, has been eliminated from the new Order. In regard to this feature, the Board subsequently issued orders rescinding former orders requiring traffic to be routed via certain lines. Some of the carriers appealed from these orders on the grounds that they should have the right to route the freight under certain conditions. Your committee strongly objected to this, resulting in the original Order being sustained.

Early Closing of Freight Sheds.—In view of the eight-hour day under which railway employees are working, the carriers found it necessary to restrict the hours of opening and closing their freight sheds.

Railway Act

The Bill to amend the Railway Act passed the Senate, and is being considered by the Railway Committee of the House of Commons. A number of amendments, in which the members of the Association are interested, are being considered. Some of them have already been passed, while others are under discussion. It is hoped that the question will be disposed of at this session.

Claims

The Department handled during the year loss, damage and overcharge claims amounting to $40,514.22. Of this, $11,850.73 was paid, $9,850.74 declined, and there is still under negotiation claims amounting to $18,812.75. It might be well to point out in regard to the amount declined that $9,520.50 covered one claim, and represented an amount not properly collectable from the carriers.

All claims handled by the Department are those which have been dealt with by individual shippers without success. In many cases they have been declined by the carriers. It is quite reasonable to state, therefore, that the amounts paid have been saved for the interested members by the action of the Department.

Collection of Freight Charges

Credit Arrangements.—This question, which was first brought up by the carriers in the fall of 1918, has been satisfactorily disposed of by the issuance of Canadian Railway War Board Circular No. 107, effective June 1st, 1919. It has occupied a great deal of time and attention of both your committee and the department during the past year.

The original proposal of the carriers was to restrict the credit period to forty-eight hours. This was later modified to ninety-six hours, but a clause was inserted in the circular embodying the regulations requiring that a bond be supplied to insure the payment of freight charges. Several meetings were held as a result of which postponement was arranged to March 1st. However, as the carriers had not removed the clause requiring the bond, further postponement was requested. The railways at first refused, but later granted postponement to June 1st. On May 6th, Circular No. 107 was issued by the Canadian Railway War Board, removing the objectionable clause and greatly modifying the original circular. The new regulations are practically the same as those which have been in effect for a great number of years.

Car Service

Prior to the signing of the armistice, every effort was made by carriers and shippers to utilize all available space in freight cars by heavier loading and reduction in the time for loading and unloading at point of shipment and destina-

tion. Since that time conditions have changed somewhat, as the railway companies are now looking for loads for their cars.

Freight Tariffs

Information, Distribution and Charges.—Tariffs issued by the railway lines in Canada are now being charged for. In the east they are distributed direct by each line, and the account for the charges is rendered by the Canadian Freight Association. In the west both the distribution and the account is handled by the Canadian Freight Association at Winnipeg. Owing to the change in conditions in the east some difficulty arose as to distribution, but after negotiation with some of the carriers certain changes were made, and tariffs are now reaching those interested in much better time.

In order to keep members in touch with new tariffs and supplements which are issued, the Transportation Department sends out a monthly circular known as "Freight Changes," showing tariffs and supplements filed with the Board of Railway Commissioners for the month prior to the date thereof. This circular is only sent to members who have signified that they are interested in keeping tariffs on file.

Weighing

In Western Canada, as well as in the United States, the carriers have been handling shipments in standard packages and of a certain class on which the weight can be readily checked under weight agreements. These weight agreements facilitate the movement of traffic, as each individual shipment does not have to be weighed by the carrier. In order that the practice in Canada may be uniform, the Canadian Freight Association inaugurated new weight agreements, effective May 1st, to cover shipments originating at points in Eastern Canada. These new weight agreements are similar to those used by Canadian carriers in Western Canada, and take the place of the former individual agreements issued by the carriers.

Railway Construction

Canadian National Railways Branch, Kamloops to Kelowna.—The assistance of the committee was asked in securing early completion of this branch of the Canadian National Railways. The question was taken up with officials of that Company, and assurances were given that construction would be started at an early date. Appropriations, we are advised, have since been arranged.

Siding Agreements

The Department was requested to assist members in connection with siding agreements, the following being those dealt with:

Iona Gypsum Company.
Muskoka Wood Company.
Napanee Iron Works.
Riordon Pulp & Paper Company.
W. H. Stacey.

Express

Claims.—The effect of the $50 limitation clause appearing on the receipt form issued by the express companies was very forcibly brought to the attention of a number of shippers, due to a fire which destroyed one of the express company's cars. Many of the shipments in this car were valued at hundreds of dollars. In making out the Express Company's receipt, however, shippers did not state the actual value. When claims were adjusted the Express Company accordingly tendered $50 for each shipment where the value was $50 or more. Many shippers felt that the limitation clause was not binding. The matter was gone into very carefully by the Transportation Department, and an article prepared for INDUSTRIAL CANADA, which showed quite clearly that the Express Company was within its rights in making settlement on the basis of $50.

Classification.—Five supplements have been submitted by the Express Traffic Association for Canada during the past year, containing various changes in ratings and conditions of carriage covering shipments by express.

Under this heading is also included new marking and packing regulations covering a number of different commodities which have been submitted to the Board of Railway Commissioners for their approval.

Pick-up and Delivery Service.—In connection with the proposed general revision in express rates, the Express Companies submitted a new basis for determining the free delivery limits at different points where such service is rendered. Briefly, the new basis contemplates extending the delivery service to sections of the community having a population of one hundred to each quarter-mile square.



S. B. BROWN
Assistant Manager, Transportation Department

General Revision of Rates.—The Express Traffic Association for Canada, on behalf of the Express Companies, submitted an application to the Board of Railway Commissioners in November, 1918, proposing a general revision in the basis of express rates. The application stated that this meant an increase of 37 per cent. east of Sudbury and 25 per cent. west thereof. Hearings were held in various parts of the country from coast to coast, and a great deal of evidence submitted by interested shippers, the Association being represented at the principal hearings. This evidence showed that the increases actually meant considerably more than the application stated. On general merchandise it approximated 60 per cent., on cream 107 per cent., on aerated and mineral waters 137 per cent., on food products 45 per cent., and on fish as high as 150 per cent to 200 per cent. It seemed to be the general opinion of the majority of shippers that if the Board found the Express Companies needed more revenue, they would be willing to stand a certain increase, provided it was a straight percentage over the present basis of rates, the chief objection being against the change in the basis. The final argument in this case was heard at Ottawa in

March, since which time the Board has been working on the evidence with a view of rendering a judgment.

Telephone

The Bell Telephone Company made application to the Board of Railway Commissioners for an increase in rates on the ground that the increased cost in supplies, labor, etc., made it necessary that they secure more revenue. The Board of Railway Commissioners has recently rendered a decision in connection with this question, which allowed advances as follows:

The new rates for exchange will be 10 per cent. higher than the old rates, instead of an increase of 20 per cent. as asked for by the Telephone Company. The new schedule of long distance rates proposed by the Telephone Company has been approved. The principal change is in the hours during which night rates are applicable. At present the night rates apply from the hours of 6 p.m. to 6 a.m., and are 50 per cent. of the day rates. Under the new tariff the night rates will not commence until 8.30 p.m., from which time until 11.30 p.m. they will be 60 per cent. of the initial day rate, and from 11.30 p.m. to 6 a.m., 40 per cent. of the initial day rate. The initial rate is for the period of three minutes and each overtime minute will be charged for at one-third of the initial rate to the next lower multiple of 5c. The new day rates are computed at 10c. for the initial three minutes up to eight miles with 5c. added for each additional eight miles. The overtime rate is one-third of the initial rate for each overtime minute to the next lower multiple of 5c. The basis of computing the distance is actual air-line mileage between exchanges.

The railway companies filed tariffs with the Board of Railway Commissioners, effective February 1st, 1919, increasing their return fares between various points in Canada.

The train services which were curtailed during the war have been gradually re-established.

Coal

With a view of conserving coal during the war, the Government made an investigation of various industries more or less non-essential, from which it was learned that these industries were using only a small portion of the coal used in pre-war years. In other words, their business had been curtailed by the war to such an extent that they required but a small portion of the coal they formerly used.

Owing to the cessation of hostilities and the very mild winter of 1918-19, the coal question was not a very serious one. Reports from the mines, however, indicate that there may be a shortage in the coming winter.

Changes in the Department

As the staff of the Association has been reorganized during the past year, the committee thought it well to give a brief survey of the changes made in the Transportation Department.

Mr. J. E. Walsh, Manager, has also been appointed General Manager of the Association. As his new duties require all of his time, Mr. S. B. Brown was appointed Assistant Manager. In addition two assistants have been added to the staff of the Department to handle the details of the increasing work.

During the past year it has been necessary to attend innumerable meetings. The change from war to peace conditions brought up many questions, which had to be settled by conference. In addition to this, 6,204 letters were received and 8,065 written.

The increased demand for information covering rates from the United States has made it necessary to acquire tariffs applying from that country to points in Canada. While a complete file of these tariffs could not possibly be maintained with the present staff, a great number have been obtained, and will be kept on file for the information of members.

The Canadian Pulp & Paper Association, the majority of whose members are members of the Pulp and Paper Section of the Canadian Manufacturers Association, have appointed a traffic representative, Mr. G. P. Ruickbie, whose activities come under the jurisdiction of the Transportation Department. This appointment, in so far as the Association is concerned, is to continue as a trial for one year.

Mr. Walsh continues to exercise special supervision over the Department, and attends all hearings of the Board of Railway Commissioners, in which members of the Association are interested. A great number of hearings have been held during the past year.

All of which is respectfully submitted.

W. R. BREYFOGLE, *Chairman.*

S. B. BROWN, *Assistant Manager, Trans. Dept.*

J. E. WALSH, *General Manager.*

Discussion on the Report

The motion to adopt the report was moved by Mr. Breyfogle, chairman of the committee, who said: "There are just two points I want to draw attention to, the first of which is a resolution to be offered in due time having regard to the maintenance of the integrity of the C.P.R., and, secondlly, the necessity for shippers to support the Government with regard to the export service with South America. The Trade Commissioner for South America, Mr. Webb, said it was absolutely necessary we support these boats from Canadian ports to South American ports especially. I just wanted to mention that in moving the adoption of the report."

MR. J. F. ELLIS: "I have a great deal of pleasure in seconding the adoption of the report of the Transportation Committee."

MR. SHAPLEY: "I would like to ask Mr. Walsh with reference to this paragraph on page 17, 'Pick-up Delivery Service,' if that remedies the difficulty in Earlscourt?"

More Extended Service

MR. WALSH: "I think it will take care of it to a very considerable extent as far as Toronto is concerned; it will result in the cutting out of the service possibly in some of the smaller places. Competition has from time to time for years now about forced the companies to give service in small towns of probably two or three hundred inhabitants. It is just possible that that service will be discontinued. However, insofar as the larger centres are concerned, the service is likely to be extended. Take Montreal, the service will cover the entire city, which they have not got at the present time, and it will also be extended very materially in Toronto if this proposal goes through."

MR. A. H. BRITTAIN (Montreal): "I cannot allow this report to pass without complimenting the chairman of the committee and the manager of the department on the able report which they have presented. I feel that the Association is indebted to the Department for the valuable information which we get from that Department.

"I might just ask the Manager, Mr. Walsh, or Mr. Brown, in connection with the section on page one, which reads as follows: 'Briefly, the Canadian National Railways

will be operated to all intents and purposes as a private company, the public to have the right of appeal to the Board of Railway Commissioners and to the courts, as previously outlined. Both these rights were denied in the case of the Canadian Government Railway System.' I thought I would like to ask the manager whether that meant that in the case of products originating in the Maritime Provinces, which is practically covered by the old Canadian Government Railways, shippers will not have recourse to the courts and to sue the railway, and whether they can appeal to the Board of Railway Commissioners?

Cut Country into Zones

"My understanding of it—it may be changed—was that the first idea was to take the St. Lawrence River and to cut off the zone at the St. Lawrence River and put the Canadian National Railways under the Board of Railway Commissioners, the idea being that the Intercolonial Railway was originally put into the Maritime Provinces as a matter of Confederation to bring the two provinces together. I feel now that, as the Government has taken it upon themselves to operate a railroad from coast to coast, they should be put on the same basis as any other railroad and that we who are interested in shipments from the Maritime Provinces should be able to appeal to the Board of Railway Commissioners, and in the case of disputes, where necessary, appeal to the courts and to sue the Canadian National Railways if necessary."

MR. WALSH: "It is clearly my understanding that the Act provides that the old Intercolonial Railway will come under the control of the Board of Railway Commissioners insofar as operation is concerned. That also applies to the whole Canadian National Railway system. The Act is not altogether satisfactory to the privately-owned railways from the fact that it gives them certain rights in regard to expropriation. They do not have to appeal under certain conditions to the Board of Railway Commissioners in the case of construction, but insofar as operation is concerned the Board of Railway Commissioners will have jurisdiction. The same also applies to the question of the right to sue. As you know at the present time, you cannot sue the Canadian Government Railways."

MR. H. I. THOMAS (Ottawa): "I would like to ask Mr. Walsh whether there is any difference in the power of the Railway Commission over the Canadian National Railways as now constituted and the power of the Railway Commissioners over the C.P.R. for instance? My information is that the power is not the same and, if Mr. Walsh could clear up that point for me, it would be interesting. I understand the right to sue; I was aware of that; but in regard to the control of the Commission over the Government roads, my question is whether the power of the Railway Commission is identical with the power that they exercise over the Canadian Pacific?"

The Board's Jurisdiction

MR. WALSH: "No, it is not. It is my understanding that, insofar as the actual operation is concerned—and that means the running of trains and anything pertaining to it, and to the collection of tolls—they have the same jurisdiction as over the Canadian Pacific, but they have not got the same power with respect to construction. The Canadian Pacific Railway is limited and comes under the control of the Board of Railway Commissioners in certain matters that are not required in connection with the Canadian National Railways. I understand the Canadian Pacific took objection to that when the bill was going through the House, but the Government did not see fit to help them out at all. That is the only difference so far as I am aware, as far as they are concerned, and as to the actual operation of the railway, they have the same jurisdiction or will have."

The question was called for, and the president having put the motion to adopt the report, it was carried and the report adopted.



FOUR PROMINENT ASSOCIATION MEN

From left to right,—Henry Bertram, John Bertram & Sons Co., Limited, Dundas; J. R. Shaw, Canada Furniture Manufacturers, Limited, Woodstock; Sam Harris, Harris Lithographing Co., Limited, Toronto; E. G. Henderson, Canadian Salt Co., Limited, Windsor.

Net Gain Made in Association Membership

Membership Committee Reports a Net Increase of 141 Members for the Year—Campaigns that Have Met with Success—Distribution of Membership and Fees Paid—Increase in Fees Approved

Presented by

W. C. LAIDLAW

Chairman, 1918-19, Membership Committee

YOUR Committee take pleasure in reporting a net increase of 141 in the membership of the Association during the past year. It is gratifying to record that our membership has not suffered during the trying conditions inevitably connected with the readjustment of the country from a war to a peace basis.

The membership work of your Committee was conducted by means of circular campaigns, appeals to members, co-operation with branches, and the efforts of the staff.

Systematic Membership Work

Your Committee urge that members of the Association in every industrial community make united efforts to induce all manufacturers in their territory to join the Association. Peterborough furnished an example of what can be accomplished by thorough and systematic membership work. In that city the manufacturers who are members launched a "Hundred Per Cent. Campaign" with the object of bringing all other manufacturers into the Association. A three days' canvass was made, and as a result every manufacturer in Peterborough to-day is a member of the Association.

Your Committee believe that, if similar campaigns were put in operation throughout Canada, many new members could be secured.

Your Committee supported the proposal to group the Association territorially into five divisions and to encourage the establishment of branches in the chief industrial centres in these divisions, in the belief that such action would increase membership and stimulate interest in the affairs of the Association. Consequently, your Committee gladly recommended the creation of branches this year in Niagara Falls, Brantford, Sherbrooke, and Victoria..

Your Committee also approved the formation of the following Trade Sections: The Ready-cut House Section, the Stone and Clay Products Section, the Woollen Manufacturers' Section, and the Shoe Manufacturers' of Canada Section.

Gain in Membership

The Association began the year on May 1st, 1918, with a membership of 3,389. The applications received and passed totalled 244, the resignations 103, bringing the total membership on April 30th, 1919, up to 3,530; a net gain of 141 for the year, as compared with 150 for the year 1917-1918.

The net result for the year ending April 30th, 1919, is derived from the following sources:

British Columbia	38
Maritime Provinces	38
Quebec	36
Ontario	34
	146
Loss in Prairie Provinces	5
Total	141

The net result for the year 1917-1918 was derived from:

Prairie Provinces	91
Ontario	35
Maritime Provinces	20
British Columbia	8
	154
Loss in Quebec	4
Total	150

The actual cash collections from fees for the year ending April 30th, 1919, were $86,475.00, being an increase of $8,075.00 over the previous year.

The following table shows the distribution of the membership in each province, indicating the amount of fees paid:

By Provinces	$10	$15	$20	$35	$50	$75	$100	$150	$200	T'l.
Ontario	424	524	422	209	146	107	51	27	15	1925
Quebec	149	219	166	82	63	61	21	16	14	791
Nova Scotia.	18	54	12	7	9	3	1	1	2	107
B. Columbia.	32	37	15	9	8	4	2	2	1	110
New Bruns'k	20	20	23	15	3	5	2	2	—	90
Manitoba	184	76	37	19	8	5	1	—	—	330
Alta & Sask.	85	53	20	6	3	—	1	—	—	168
P. Ed. Island	4	3	2	—	—	—	—	—	—	9
Total	916	986	697	347	240	185	79	48	32	3530

In dealing with resignations the usual practice has been followed of accepting only after it is made apparent that the membership cannot be held. The loss in revenue from resignations accepted for the past year, chiefly owing to liquidation and amalgamations, was $1,715.00. This does not take into consideration a possible loss from resignations that have been received but not as yet accepted and fees overdue and still unpaid.

Question of Fees

To offset the possible loss from the above sources, we received from new memberships during the past year the sum of $5,455.00. Personal solicitation for new members is the most satisfactory method of increasing the membership, and as the time of the present staff is fully taken up with other matters, consideration is now being given to the appointment of travelling representatives. It is estimated that their upkeep could be largely met by extra revenue derived through new memberships and the continuance of memberships that can only be held by a personal call.

Your Committee considered a schedule of proposed increases in the membership fees, and approved a total increase amounting to $43,365.00, provided that the need for greater revenue was apparent. The Executive Committee endorsed your Committee's schedule and approved of further increases amounting to $9,455.00, bringing the total gross increase to $52,820.00.

Your Committee respectfully urge that, as the extraordinary and difficult problems now facing industry require the

co-operation of all manufacturers, special efforts be made by every possible means to induce manufacturers who are not now members to join the Association.

All of which is respectfully submitted.

W. C. LAIDLAW, *Chairman.*
J. T. STIRRETT, *General Secretary.*
J. E. WALSH, *General Manager.*

Discussion on the Report

The motion to adopt the report of the Membership Committee was moved by Mr. W. C. Laidlaw, seconded by Mr. C. Howard Smith. Continuing, Mr. Smith said:

"I would like to say a few words about membership. The Chairman has spoken of the necessity of getting members, and looking at the numbers present there are a great many manufacturers who should be members of the Association. In Montreal this year we put on a campaign and increased our membership somewhat, but not nearly as much as we should have done. At the present time there is no manufacturer that cannot easily get value for his money in joining the Association. The old saying is, in union there is strength. The more we get in the Association the better off we are. I would like to urge upon the members here to try to bring in some manufacturers as members of the Association. Besides having their influence, we also need the money. We are spending a great deal of money now, and we have got to get more money to spend, and that is one way of saving ourselves from being taxed so high."

Welcome Younger Members

MR. MEADOWS (Toronto): "As one of the older members of the Association, I think this is a fit time for me to say what I would like to say. A survey of this meeting, Mr. President, reveals a very large number of new faces. As one who has not been actively engaged in the Association work for some few years, I miss the faces of a great many of those who used to be very busily engaged in all the activities of the Association. I also miss in this Convention the taking part in the discussions of a number of people 'as used to be.' I for one am very glad to hear the voices of the old members, but I would be very much pleased indeed, as I am sure the rest would be, to hear the voices of the new members. I don't know whether these new members feel absolutely free to take part in these discussions, but I would like it to be understood, Mr. President, as from you and from the older members, we always welcome the suggestions and discussions of the newer members."

MR. H. I. THOMAS: "I would like to say a word. I think we ought to congratulate the Committee on the excellent work they have done. It is a work that entails a certain amount of personal sacrifice on their part, and the results have been fairly satisfactory, but I agree with Mr. Smith and the last speaker that we should have a great many manufacturers members of our Association who are not so now; and although I approve very heartily of the idea of having traveling representatives and the continuance of the work of this Committee, which I presume is expected, I feel that the best results can only be attained by individual effort of every member of the Association. I think if every member of the Association would endeavor to get one or two new members in his neighborhood during the coming year that that would bring about perhaps the very best results we could possibly look for. As Mr. Smith has pointed out, the expenses of this Association are growing very rapidly; coincident with that, the work of the Association is growing perhaps still more rapidly. You have established during the last year the Ottawa office and you are branching out in many different directions, all of which is very commendable. We ought to have in this Association practically every manufacturer in Canada, and I believe that that result can be approximated at least if every member would make it a personal matter to try to secure at least one other during the coming year. And, Mr. President, if that is done, it might be pointed out to the members, it will not be perhaps as necessary to raise the fees, because if we have a larger membership a smaller fee from that larger membership will of course produce the same results as a larger fee from a smaller membership."

MR. HENDERSON (Montreal): "I would like to add a word of approval to that idea of the last speaker. I think if we all work to get one or two members individually during the coming twelve months, apart altogether from the organ-

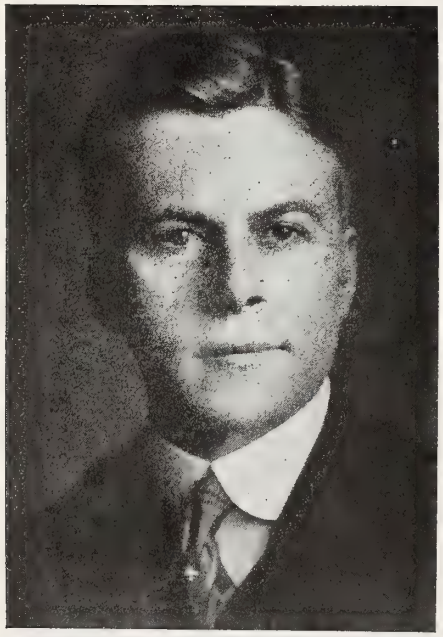


H. A. TELFER
Telfer Bros., Limited, Toronto
Chairman, 1919-1920, Membership Committee

ized efforts that will be put up from one part of the country to the other, we are going to bring a result which will be like the mail orders which come in in the morning, which bolster up and act as an auxiliary to the work of the salesmen, and at the end of next year it will be astonishing to us all. As a specific instance of what I refer to, I might mention as many as eight or nine years ago, when I was domiciled in Nova Scotia, and interested in the affairs of the Association down there, we put on a campaign in that little province that didn't have behind it any particular organized traveling expeditions or anything of that kind, but each one of us committed himself to the promise that he would get either two or three members within a reasonable length of time, and we didn't put it at a week so that we had to race about, but we put it at three months, and I think about nine-tenths of the gentlemen who committed themselves to that promise made good within the time specified. The result was that the membership from Nova Scotia increased, I think it was about two-thirds, during that year. So that I think it is a point that can be well insisted upon —the point that was made by the last speaker, that in addi-

tion to the organized efforts made by the manager, etc., we should each do our little part quietly and persistently."

MR. BREYFOGLE: "We have had the experience in Peterborough of going after some ten or eleven members outside of the Association—a matter that has been very kindly referred to in the report of the Committee—but we found it was absolutely essential to get after them on the personal side; men that we could approach and call by their first names and lay the benefits of the Association before were more easily secured by this means than by anything the Association could do in a circular way or even by a representative coming direct, and I am heartily in accord with the principal of personal work on the part of the members of the Association. There is not one of us but what has an influence with some one man outside of the Association and could bring him in without trouble on the part of the Head Office. Furthermore, my understanding is there are only



J. T. STIRRETT
General Secretary, Canadian Manufacturers Association

1,500 manufacturers outside of the Association in Canada, so that, if it would be possible for us all to secure one member, there is only 1,500 to secure. The personal work on the part of one or two men who are willing unselfishly and selfishly, because it works both ways, to go out and spend a day, will bring these men inside of the Association."

Members Should Get Members

THE PRESIDENT: "The suggestion thrown out that we assist in securing members is really the only membership work that can be done. Men will join the Association if their fellows in business show them the advantages of it and introduce them to the circles of the Association; otherwise you won't get them. That was our experience out West, and I think it is the experience all over. I think I can take it for granted that every member present at this annual meeting at least will pick up another member, and that will add quite a few of your 1,500 to our membership. Apart from the question of the Manufacturers Association being interested about the non-members, even some of our own members are exceedingly stupid as to what the Association does and can do for them. A few of them have taken the trouble to investigate and find out, but the chief value of this Association is its police features, its preventive features, which of course are not spectacular advertising features, but one has only to get in touch with the office and the work of the office to appreciate that. The only thing that is impressed upon the mind of myself and others from the West, who have come down here, is that the Association is run too cheap; we are expecting to get too much for the fees we pay, and I think if we do anything at all this year this increase of fees will be the biggest thing we do. I hope it will carry when the time arrives. Are you ready for the adoption of the report of the Membership Committee?"

Peterboro's Fine Example

MR. MCKINNON: "I believe the Committee has done noble work under the able leadership of Mr. Laidlaw. It might be interesting to know that in one City in Canada they started a campaign of this kind to have every manufacturer in the city who was eligible become a member, and the result was that a 100 per cent. efficiency was obtained. I think it will be interesting to know that that was the City of Peterborough. I am sure it was the well-known modesty of Mr. Breyfogle, who just spoke, which prevented him from mentioning that, but in Peterborough 100 per cent. of the eligible persons there are members of the C.M.A.

"I believe one of the difficulties the Membership Committee experience is that the non-members do not know the work that is carried on by this Association. In fact, one of the members, after the reading of one of the reports yesterday—a man of long standing in the Association—was really surprised to know the benefits he could receive from the Association simply upon payment of his dues. I believe we can all do better and follow the example of our good friends in Peterborough."

MR. LOWNDES (Toronto): "Peterborough has been mentioned, but why couldn't we take any other town? Do all the members of our Association, say in Chatham, know the other men in Chatham who are not members of the Association. I know in Toronto I don't know among my own trade who are members and who are not. Would there be any system which could be adopted so that we could take for instance the clothing manufacturers of Toronto and the members of this Association be notified that such manufacturers are not members of this Association? Wouldn't that give us something direct to work on?"

THE PRESIDENT: "The members of the Committee will note that suggestion."

MAJOR ANTHES (Toronto): "I would like to draw your attention to the fact that the joint committee of the technical organizations and the engineering organizations in Ontario desire closer relations with the C.M.A. A committee has been appointed by the joint committee of the technical organizations of which I am chairman. I would ask that the Membership Committee be requested to appoint a small committee to negotiate with the committee of the joint committee of technical organizations towards the object of effecting a closer relationship between engineers and manufacturers. As we know, we are now launching upon a very intensive period of development, and I think engineering is going to be one of the outstanding features in our industrial development. Also, we have kindred relations with technical and industrial education. Without going any further, I merely request that the incoming committee be requested to appoint a small committee to confer with the committee of the technical organizations.

The President put the motion to adopt the report which, on a vote having been taken, was declared carried and the report adopted.

Important Report of the Tariff Committee

Review of the Whole Tariff Situation in Relation to National Development —Progress of the Movement Towards Preferential Tariffs—Work of the Tariff Department in Connection with War Measures Restrictions

Presented by

L. L. McMURRAY

Chairman, 1918-19, Tariff Committee

THE three most important subjects dealt with by your Committee during the past year were the demand of Prairie Provinces' grain growers for an immediate and substantial lowering of the customs tariff, the adoption throughout the Empire of customs tariff preferences on Empire products, and the war trade embargoes of the Dominion of Canada and other countries.

To fulfil the national duties thrust upon this country by the ending of the great war, it was evident that confidence in the future outlook should not be shaken, and that progress toward stable commercial conditions should be hastened. Therefore your Committee viewed with great concern the recent active propaganda of Western grain growers for the complete removal of certain customs duties, and for sweeping reductions in others, coupled with proposals that the revenues lost by tariff reductions should be recovered through new taxation measures of a highly experimental nature. If these demands were granted, widespread depression would result, thousands of people would be thrown out of employment, and all classes in the country would suffer. Moreover, your Committee are convinced that the movement to secure these tariff reductions has in view, step by step, ultimate free trade between Canada and the United States.

Relation to United States

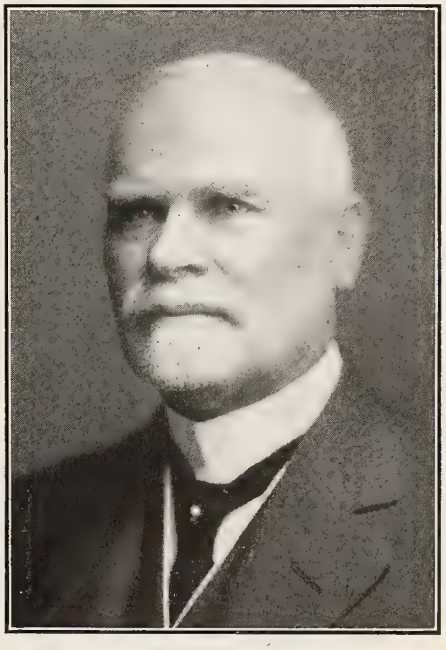
Under free trade with the United States the tariff of Canada against other countries would have to be the same as that of the United States. To realize this, one has only to remember that if our tariff were lower than that of the United States on articles made abroad, those articles would be imported into Canada and pass thence into the United States; and that if the United States tariff against other countries were lower than ours, shipments from abroad, under free trade between the two countries, would find their way to Canada through the United States. Thus, it follows that our fiscal policy would be determined, not in Canada, but in Washington.

This same view appears to have represented the mature judgment of ex-President Taft, and of the late ex-President Roosevelt. It was plainly stated in correspondence between these two great citizens of the United States during the United States-Canadian reciprocity negotiations of 1911. This correspondence was published by ex-President Taft in a speech at Boston, Mass., on April 25th, 1912, and the following is quoted therefrom, viz.:

Ex-President Taft to the late Ex-President Roosevelt—"The amount of Canadian products we would take would produce a current of business between Western Canada and the United States that would make Canada only an adjunct of the United States. It would transfer all their important business to Chicago and New York, with their bank credits and everything else, and it would increase greatly the demand of Canada for our manufactures. I see this is an argument made against reciprocity in Canada, and I think it is a good one."

The late Ex-President Roosevelt's reply to Ex-President Taft—"It seems to me that what you propose to do with Canada is admirable from every standpoint. I firmly believe in free trade with Canada for both economic and political reasons."

While the 1911 proposed reciprocity treaty represented an important step in the direction of free trade between the two countries, nevertheless its provisions fell a long way short of complete free trade. Yet that one important step in the direction of Free Trade with the United States, in the judgment of those two eminent men, would have reduced our present, separate, British nationality to the negative status of an "adjunct" to the United States. As the tariff changes demanded at this session of Parliament go much farther than the reciprocity agreement, toward free trade with the United States, the threatened danger to the future of Canada is proportionately increased. From these denationalizing agencies our protective customs laws, inaugurated forty years ago, preserve our country.



E. J. DAVIS
Davis Leather Co., Limited, Newmarket, Ont.
Chairman, 1919-1920, Tariff Committee

It is fundamental that the maintenance of our separate British nationality depends upon the retention of our freedom to shape our protective customs laws to serve our own needs.

What it means in our national development to be importing from the United States those commodities which should be made or produced here is aptly illustrated by this country's importations last year of free tractors. The number imported to the end of January, 1919, was 13,641, valued at $13,056,013, and if these tractors had been made in Canada the work would have given constant employment for one year to over 6,000 skilled mechanics. At three to a family, that would represent a city of 18,000. But by the importation of

these tractors, that city was maintained in the United States instead of in Canada.

Again, as regards importing direct by Canadian jobbers, if we had, as Western grain growers desire, free trade with the United States, everyone who thinks on the subject knows that this would sweep away all protection which Canadian jobbers and wholesalers enjoy in their direct dealing in European, Asiatic, and South American commodities. On account of the vast United States' shipping and their convenient ports, free trade between the two countries would develop United States' importing jobbing houses, United States' ports, United States' railways, United States' financial institutions, the United States' public revenues, at the expense of this country's wholesale merchants, ports, railways, financial institutions, and revenues.

International Differences

Then, too, it should not be forgotten that this Dominion represents merely a narrow strip of populated country, stretching for 4,000 miles along the northern boundary of the United States, in which country, throughout that whole distance, there are great industrial centres close to the Canadian border. The shorter freight haul from such centres to the Canadian West, as compared with the longer haul from Canadian industrial centres to the same points, would give those United States' manufacturers commanding advantages in our home markets, advantages which could not be offset except for our protective customs laws. Moreover, the traffic thus given to United States' railways would be taken from Canadian transcontinental lines, two of which, now controlled by our Government, already are operating at a loss.

In respect to this subject of national development, those of our legislators who would encourage greater imports of finished products from the United States do not seem sufficiently to comprehend the effect which their policy would have on the rate of exchange. The balance of our trade with the United States is heavily against Canada. The Trade and Navigation Returns of the Customs Department, Ottawa, show the adverse trade balance against Canada for the last six years, to be as follows:

Year ending March 31st.	Exports to United States.	Imports from United States.
1914	$200,459,373	$410,786,091
1915	215,409,326	428,616,927
1916	320,225,080	398,693,720
1917	486,870 690	677,631,616
1918	434,036,552	802,671,461
1919	454,923,170	746,940,654
	$2,111,924,191	$3,465,340,469

The great excess in value of our imports from the United States places Canadian money at a discount in that country, and the money of that country at a premium in Canada. Thus a Canadian manufacturer, buying raw materials in the United States, at the present rate of exchange, is obliged to pay a sum about three per cent. higher than the sum which a United States manufacturer would pay for corresponding raw materials for manufacture in that country. A United States manufacturer buying his raw materials in Canada is able to pay about three per cent. more for those materials than the Canadian manufacturer can pay. To illustrate: A United States tanner to-day can buy calf skins in Canada at a price about two cents per pound higher than the Canadian tanner can pay, without the former being subject to disproportionate costs of manufacture. As a result, the United States tanner can secure the cream of this market in such raw hides. Many other countries are controlling exchange conditions by customs tariffs and rigid import restrictions. To this end the United Kingdom and Italy are maintaining rigid import restrictions against a long list of manufactured products of foreign countries. As to France, at a Cabinet meeting, May 13th, where certain changes were considered in the French export embargoes, the Cabinet Ministers made the following statement:

"We are also working on a plan for the revision of the import restrictions, which should be tied up with the revision of the customs tariff in order to safeguard the interests of the national industries."

The United States Congress, by resolution of the Ways and Means Committee, House of Representatives, adopted May 22nd, 1919, decided to take up a general revision of the tariff this session. The Chairman of the committee stated that the Government's need for revenues, and the demoralized state of foreign trade, demand a readjustment of tariff rates. Members of the Governments of Australia and South Africa have stated recently that the customs tariffs of those countries will be revised in the near future, because as they would be able to import less, they must make more.

For these reasons your Committee could not but feel that in the demands of the Western grain growers this country was threatened with real and serious danger. From whatever point the situation was viewed, whether from that of preserving our national independence, or of maintaining and promoting our industrial development, or of safeguarding our wholesale and jobbing trade, or of securing relief from an adverse rate of exchange, the fiscal policy counselled by the grain growers seemed to offer nothing but destructive results. Moreover, it was completely at variance with the tariff policies of other industrial countries, in all of which there is a noticeable tendency toward higher duties and restrictions, rather than lower duties and freedom of trade. In the decision to institute a counter propaganda, for the purpose of disseminating these and similar views in opposition to the grain growers' proposals, your Committee fully concurred.

Preferential Tariffs

Canada was the first of all British countries to adopt the policy of establishing tariff preferences for imported British goods. For upwards of twenty-one years the Dominion of Canada has admitted products from most British countries at substantially lower tariff rates than apply against corresponding goods of foreign production, without, as a rule, receiving reciprocal treatment which would serve to assist the export of Canadian products to those same countries. For many years this Association has consistently urged and supported the policy of reciprocal preferential tariffs for Empire goods. When Canada first extended preferential tariff treatment to the United Kingdom, New South Wales (Australia), was also included. At a later date New South Wales extended a preference to the United Kingdom, but not to Canada. Consequently, Canada was forced to withdraw the preference she had given to New South Wales. At the present time Canada extends preferential tariff treatment to the following British countries in addition to the United Kingdom, viz.:

The British Colony of Bermuda.
The British Colonies commonly called the British West Indies, including the following:
The Bahamas.
Jamaica.
Turks and Caicos Islands.
The Leeward Islands (Antigua, St. Christopher-Nevis, Dominica, Montserrat and the Virgin Islands).
The Windward Islands (Grenada, St. Vincent and St. Lucia).
Barbados.
Trinidad and Tobago.
British Guiana.
British India.
Ceylon.
Straits Settlements.

New Zealand.
Cape of Good Hope.
Natal.
Orange River Colony.
Transvaal.
Southern Rhodesia.
Swaziland.
Basutoland.
Bechuanaland Protectorate.
Northern Rhodesia.
Nyasaland Protectorate.
Uganda Protectorate.
East Africa Protectorate.
Protectorate of Northern Nigeria.
Colony and Protectorate of Southern Nigeria.
Gold Coast.
Sierra Leone.
Gambia.
Somaliland Protectorate.
Federated Malay States.
British North Borneo.
Sarawak.
Brunei.
Mauritius and Dependencies thereof.
Seychelles.
St. Helena.
Ascension.
Friendly or Tonga Islands.
Fiji.
Falkland Islands.
British Honduras.

Moreover, Canada extends to all the above countries a wide preference of substantially one-third, whereas, of these countries, only New Zealand reciprocates by giving Canadian products a corresponding preference. The only other countries which give a preference to Canadian products are South Africa, which gives a preference of three per cent., and Trinidad, British Guiana, Barbados, St. Lucia, St. Vincent, Antigua, St. Kitts, Dominica, and Montserrat, which give a preference ranging from two to about three per cent. on a limited list of dutiable commodities.

Preferential Tariffs

The United Kingdom has definitely committed herself to the principle of promoting the establishment of preferential tariffs within the Empire. The Honourable Austin Chamberlain, Chancellor of the Exchequer, in his recent budget, announced tariff reductions in favor of the products of the Overseas British Dominions, amounting to one-sixth off on foodstuffs and one-third off on manufactures. Except as regards tea, these tariff preferences take effect on the first of September, 1919. And there is considerable probability that the United Kingdom's dutiable schedules will be extended by adding to the dutiable list a variety of manufactured goods which are now on the free list. As regards Australia, there is good ground for belief that favorable action will result within a few months.

The carrying out of the preferential tariff principle throughout the Empire would leave to each British country complete control of its own customs tariff. It would bring the British Empire into line with the policies followed by other countries possessing overseas dominions. By means of such a policy the United States practically monopolizes trade with Alaska, Hawaii, the Philippines, Porto Rico, and the recently acquired Danish West Indies. In Cuba, too, United States' commodities enjoy a tariff preference ranging from one-fifth to two-fifths lower than the rates of duty on corresponding products entering Cuba from all other countries. That policy, too, has been and is to-day the policy of France and other great trading nations possessing overseas dominions. The Government representatives from Australia and New Zealand, whilst visiting in Great Britain, have exerted themselves very strongly on behalf of imperial preferences.

Your Committee believe that the adoption of substantial tariff preferences amongst British countries, corresponding to the preferences provided in the tariff of Canada, will effectually strengthen, consolidate and develop not merely the Empire as a whole but each constituent part thereof, and, by making representations to those in authority, they have done what they could to speed this great imperial project toward the goal of realization.

Standard Invoice Form

The Federation of British Industries state that they held an informal meeting with the Dominion Prime Ministers, and afterwards had a further meeting with the High Commissioners of New Zealand and Canada, and the legal advisors of Australia, for the purpose of seeing if a standard invoice form could be adopted. Afterwards, the Federation of British Industries referred the draft of a proposed standard form to this Association for suggestions. Your Committee found that the method of appraising imports for the assessment of customs duty in the various British countries differs widely.

In the United Kingdom the value for duty is the fair price



J. R. K. BRISTOL
Manager, Tariff Department, C.M.A.

of the goods, including freight, insurance and other charges, laid down at the United Kingdom port of entry. In South Africa the value for duty is the fair market value at the point of origin of the shipment, plus freight, insurance and other charges to the port of exit. In New Zealand the value for duty is the fair market value at the point of origin of the shipment, plus ten per cent. In Australia the value for duty is the fair market value at the point of origin of the shipment, plus freight thence to the port of exit and ten per cent. added to the whole. In Canada the value for duty is the fair market value at the point whence the goods begin their continuous journey consigned to the importer in Canada, provided that the cash discount shall not exceed two and one-half per cent.

Therefore, your Committee suggested to the Federation of British Industries that the method of appraising imports for

the assessment of duty in the various British countries should be studied, with the view to seeing if they could not be brought more closely into harmony, before adopting a standard invoice form.

War Measures Restrictions

The embargoes placed upon the exportation of various commodities by the Government of the United States after that country entered the war were reported at the last Annual Meeting. After the Annual Meeting, however, the effect of these embargoes, which had been steadily increasing, became most oppressive to Canadian industry. The United States, anticipating a long war and evidently desirous of conserving its resources, took these steps in order to ensure that there would be sufficient materials, available, first, for the prosecution of the war, and, secondly, for its own industries. Things came to such a pass that a number of Canadian industries were in danger of being completely crippled through inability to buy their raw materials from the United States. Information available was collected, which showed how seriously these embargoes were affecting our industries, and the same was laid before the Government, with a request that negotiations might be entered into with the United States' Government with a view to lessening these restrictions where possible, without affecting progress in the war. The Canadian Government took the necessary action, and through the efforts of the Canada War Trade Board many of these restrictions were lightened sufficiently to enable Canadian manufacturers to secure necessary raw materials.

After the armistice was signed, European countries retained their rigid restrictions against the importation of goods from other countries. These restrictions were so severe that they stopped importations and goods could only be imported by special government license, which was most difficult to obtain. Your Committee urged the Canada War Trade Board to endeavor to secure the removal of the import restrictions imposed by Great Britain against Canada, so that normal conditions of trade might be restored.

The case of Canadian exporters was laid before the British Government by the Prime Minister and his colleagues, who were then in England, and their efforts were ably seconded by Mr. Lloyd Harris, Chairman of the Canadian Mission in London, who was indefatigable in presenting the case on behalf of Canadian exporters. Eventually, the British Government lifted its import restrictions from Canada and from the products of all other Overseas Dominions. Your Committee feel that the Association owes a debt of gratitude to the Canada War Trade Board, to the Canadian Mission in Washington, and to the Canadian Mission in London, for their efforts in securing relief from such trade restrictions as were operating to the detriment of Canadian industry, and also for their successful work in bringing to Canada substantial orders for Canadian products.

Exports

Your Committee are strongly impressed by the absolute necessity for increasing the exports of this country. During the year ending March 31st, 1914, the total Canadian exports amounted to $431,588,439, of which $57,443,452 represented the value of manufactured goods. The high water mark of our yearly exports during the war reached the enormous total of $1,540,027,788, of which $636,602,516 represented manufactured goods. The increase, of course, was directly due to the war, and consisted almost entirely of articles needed in the strain of war by the belligerents in Europe. Normally, the great bulk of this export trade would disappear. The question then arises, how are we to pay our debts?

The national debt has risen from $544,391,368 in 1914, to $2,691,160,698 now. The estimates tabled in Parliament by the Minister of Finance represent a proposed expenditure this year of $438,000,000, exclusive of supplementary estimates not yet presented to Parliament. As we do not wish to adopt the unsound method of borrowing to pay our debt interest, it is imperative that the wealth of the country should be augmented by the natural method of increasing export trade. Finance for a country is very similar to finance for an individual. If a man is in debt he must live frugally, save money, work incessantly to produce something of value, and sell it. Canada must do the same. We must eliminate waste, cut down luxuries, encourage thrift, stimulate production, and sell more goods. The present demand for goods from Europe may be temporary, but while it lasts we should take the utmost advantage of it.

Gas and Gasoline Farm Tractors

In passing the first order-in-council regarding farm tractors, the Government took the position that, owing to war conditions, the stimulation of food production was temporarily more important than the maintenance of the Canadian tractor industry. The second order-in-council continues the concession, but lifts therefrom all provisions that would stamp it as temporary. The number of tractors entered free during the year covered by the first order was 13,641, valued at $13,056,013. The manufacture of these tractors in Canada would have provided profitable employment for one year for over six thousand men. As previously stated, reckoning only three to a family, this represents a city of 18,000 inhabitants lost to this country. And the foregoing does not include the mechanics and artisans who should have been employed in industries in Canada producing supplementary supplies required by a tractor industry. Before the first order-in-council was passed, Canadian tractor manufacturers had stocked materials at the then prevailing very high costs. These costs were very much higher than the costs on corresponding materials to United States' tractor manufacturers, whose finished tractors came into Canada free of all customs duties, for, where a Canadian manufacturer had to go to the United States for materials the prices for export to Canada were generally much higher than for "home" consumption in the United States.

Compensation for Depreciation

Even in respect to the prices paid by United States manufacturers on stock acquired to complete United States' Government contracts, the Government of that country has recognized the moral claims of manufacturers to compensation for depreciation in market value of stock on hand, owing to cancellation of such contracts after the conclusion of the armistice. The Canadian tractor manufacturers have been compelled to write off similar shrinkages in value of materials, owing to the unforeseen withdrawal from imported tractors of all customs protective laws. These shrinkages represent ruinous losses; and, in equity and justice, your Committee believe that these losses represent moral claims upon our Government equally as strong as those which are being entertained by the United States Government.

It is also a fact that the tractor manufacturers of Canada have to pay the full duties on imported materials, and do not qualify for drawback of 99 per cent. of the duties paid until after the tractors are completed. Even then there is very considerable cost through office work entailed in preparing the drawback claim and supporting evidence, after which there is much unavoidable delay in the customs reports thereon and necessary checking. These additional costs, the interest charges on duties so held on deposit by the Government, together with the one per cent. which the Government does not refund, represent a further heavy handicap upon Canadian manufacturers. Since the complete tractor made in the

United States enters this country free of any duty, the manufacturer of corresponding tractors in Canada is handicapped as outlined.

Your Committee also recall the fact that the Government purchased over one thousand tractors in the United States. In connection with that transaction, the Canadian tractor manufacturers stated that these tractors were sold to farmers at cost, exclusive of the service costs in educating and training men to run them; and that these service charges were paid for out of the general taxation of the Provinces. Corresponding service charges have to be carried in the overhead of Canadian tractor manufacturers; and, consequently, this Government competition worked a serious injustice to Canadian manufacturers, the bad effect of which extends down to the present time.

Your Committee recommend that the Government be urged to reconsider the tractor question, and to take the necessary steps to ensure the development of the Canadian tractor industry.

Customs Tariff Changes, Orders-in-Council and Rulings

There have been no tariff changes by Parliament since our Annual Meeting in Montreal last year, but notice of such changes as have been effected by orders-in-council or by customs rulings have always been sent promptly to members primarily interested. In addition, full announcements have appeared in INDUSTRIAL CANADA each month.

During the year the Tariff Department, in co-operation with members concerned, has handled successfully a very large number of appeals for relief from trade embargoes, of questions before the Department of Customs as to custom tariff interpretations, of questions as to value for duty of imports, of matters requiring new statistical classification, of custom seizure charges, the return of duties overpaid, and the settlement of drawback claims. Members are again reminded that the Manager of the Tariff Department is available to all members for consultation and assistance in respect to any customs matter, either foreign or domestic. In this connection it is gratifying to report that the facilities of the Tariff Department for advising on foreign tariff rates, invoice forms, etc., have been extensively used during the past few months.

All of which is respectfully submitted.

L. L. MCMURRAY, *Chairman.*

J. R. K. BRISTOL, *Manager, Tariff Department.*

J. E. WALSH, *General Manager.*

The motion to adopt the report of the Tariff Committee was made by Mr. L. L. McMurray, who read the report to the Convention. It was seconded by Mr. E. J. Davis, and duly carried.

CHAIRMEN OF THE NEW STANDING COMMITTEES



J. F. MacKAY
Willys-Overland Limited, Toronto
Publicity Committee



E. HOLT GURNEY
Gurney, Foundry Co., Limited, Toronto
Commercial Intelligence



C. H. CARLISLE
Goodyear Tire & Rubber Goods Co., Toronto
Industrial Relations

International Press Photo.

Three new committees were authorized by the Annual Meeting this year, namely: The Publicity Committee; The Commercial Intelligence Committee; The Industrial Relations Committee.

The Publicity Committee will supervise all publications, articles or statements which are or may be issued by the authority of the Association. The Commercial Intelligence Committee will supervise the collection and distribution of information on commercial subjects which may be of interest to members. The Industrial Relations Committee will study the relations between employers and employees, and the various plans which have been or may be made to effect changes in these relations.

Before the above committees were created, their combined duties were performed by the Executive Committee, which, consequently, found that it had to deal with a great many details which did not come properly within its scope.

Canada's Opportunity in the Export Field*

Requirements of Great Britain and Many European Countries are Enormous —What has been Accomplished in Securing Orders—Criticism of Some of the Methods and Lack of Method of Certain Canadian Manufacturers

By LLOYD HARRIS

Chairman, Canadian Mission in London

MR. PRESIDENT and Gentlemen: I see that I am on the agenda to-day to address you on "Export Trade." This is a tremendous subject, and of course it is of vital interest to Canada at the present time. If I covered the subject as I would like to, I am afraid I would wear out your patience, so I am just going to deal with a few of the more important features of Export Trade and try to convey to you if possible a picture of the situation as I see it and as we have found it in Europe during the past seven months.

The importance of export trade to Canada at the present time cannot be overstated. In the condition in which we find ourselves in Canada after the great war effort which this country has made, it is vitally important that we should do everything possible to develop and increase the sale of Canadian products in foreign and other countries.

During the short period of four years, from 1914 until 1918, Canada's export trade had risen from $450,000,000 in round figures in 1914 to $1,536,000,000 in 1918. If this increase could be maintained and we could continue to sell abroad this enormous volume of Canadian products, our own situation and our own problems would be very easy of solution. However, this cannot be done without a tremendous effort and without a tremendous amount of education, and without a great deal of investigation and the attainment of a great deal of knowledge as to what export trade for Canada really means.

Canada's Ability to Produce

The ability of Canadian manufacturers and producers to manufacture and produce has been demonstrated during the war. On frequent occasions in Great Britain in addressing public gatherings there I have made the statement that, whereas in times past our Canadian representatives visiting Great Britain and talking about the great resources of Canada have always dwelt upon the fact that Canada was a tremendous agricultural country and was the granary of the Empire, to-day, after a brief period of four years, they can point out that Canada from being primarily an agricultural country has reached the position of being predominantly a manufacturing and industrial country.

In that same year of 1914 our exports of manufactured goods from Canada were only a paltry $57,000,000. In 1918 the exports of manufactured goods had risen to the enormous total of $636,000,000, a tremendous increase; that was of manufactured goods alone. Of course our agricultural products had increased also; nearly all of the exportable surplus of our various industries had shown large increases excepting in mines, fisheries and timber.

We demonstrated the fact during the war that we can manufacture in this country as economically and as efficiently as any other nation in the world. The efforts we made towards the production of munitions was one of the greatest accomplishments of the war by any country. The actual figures show that in the production of munitions we attained such efficiency that our costs of production of munitions were lower I think than in any country I know of with the possible exception of France. Our manufacturing costs were lower than in Great Britain and a very great deal lower than they were in the United States.

What of Ability to Sell?

I am proud of the fact that Canadians have demonstrated their ability to show that they can efficiently manufacture and compete in manufacturing with other countries of the world. I am not so clear as to our ability to sell. During the same period covered by the war one thing that strikes me is that we practically lost our selling organizations and to a great extent our selling ability. Things came too easy to us perhaps. Orders were placed with our Government departments; they were handed out to us and we were told to go ahead and devote all of our time to manufacturing. Consequently it was not necessary to devote any time to the organization of our selling staffs and to a study of selling methods. Now, the situation is entirely changed, and while we have the ability to produce we must get the ability to sell. This is the effort that everybody in Canada has got to devote his best attention to at the present time if we are going to successfully carry out the programme which I think every Canadian should get behind and do his utmost to carry out, namely, to maintain our large volume of exports.

To begin with, in considering the distribution and selling of our surplus products, the first thing that is necessary is to study our markets, to study the needs of those markets, and to find out what the people in these various countries, where we try or where we wish to sell our goods, desire and require. We must not lose sight of the fact that, because we produce certain articles in Canada which are suitable to the Canadian market and which the Canadian people want, those same articles will be accepted and taken by the people of other countries. Great Britain perhaps has failed to appreciate this situation as much as any nation in the past, and at the present time the whole discussion in Great Britain is toward trying to educate the British people to the importance of studying the markets, studying the requirements of those markets and of making the goods that are required for those markets.

Great Britain's Import Restrictions

When I got to Great Britain in November last I found a very curious condition of affairs. The whole of Great Britain, on account of their war effort, had practically been organized into departments for the controlling of every product that was produced or used in that country. The Government found it necessary to restrict importation of goods that were really not essential to the needs of the people. These organizations were still in existence, and as a result the effect of the import license restrictions at that time was that goods could not be imported into Great Britain, from the other Overseas Dominions. The situation was rather a

*An address delivered at the Annual Convention of the C.M.A., on the afternoon of Wednesday, June 11th, 1919.

curious one, but it had been simply brought about by evolution, because during the war, we in Canada had practically given up our commercial exports and so all of the exports that were taken from Canada, with very few exceptions, were Government purchases and purchases which were made for war requirements in Great Britain or by our allies. The result was that for the year 1919 the basis of importations which had been decided upon was the basis of importations of 1916 very largely. In some cases they took it back to 1913.

In 1916 Canada being at war was not exporting commercial products to any extent. The United States, however, which did not come into the war at the time we did, was exporting very largely to the British markets. Consequently they were being allowed percentages on importations for 1919 based on the imports of 1916. The same condition existed as to imports from France, from neutral countries and from all other countries. We had to take this matter up with the British Government and show them that the policy of the Government, while we stated we didn't think it was intentional, was to discriminate against Canada, and after properly placing the situation before the British Government we were then able to have all restrictions removed on our imports within the Empire into Great Britain. This means that Canada and the other Overseas Dominions could then enjoy a real Imperial preference in the markets of the United Kingdom, the first perhaps we had ever enjoyed.

Importance of British Markets

I don't think the people of Canada have since then realized the importance of the markets of the United Kingdom for our Canadian products. You have no idea of the conditions existing in that country to-day. The country is absolutely bare of everything, and they have not yet been able, and will not be able I think for some considerable time to come, to again get started in production, on account of the difficulty of securing raw materials. I don't know whether you know it or not, but Great Britain is absolutely dependent on outside countries for her supply of raw materials, and, in order to get her own industries operating to the maximum extent, it is necessary that they should purchase in the way of raw materials in value about half of what their exports were before the war. So that this market of Great Britain in raw materials alone is a tremendous market.

In addition to that there is not a single item that we manufacture in Canada and that is manufactured in Great Britain that is not in great demand in Great Britain at the present time. We have had representatives from Canada visit England. Some of them have come over there to buy. They have come in to see us. We have told them, you don't want to come over here and buy anything; you want to go out and sell something. And these men who have gone over to that country to buy actually have gone out and sold their Canadian products which they had no idea could be done at the present time. That market is still open. There is an enormous demand for almost everything that you can possibly think of. Canadian products have free entry into the market and, if you men don't go and get it, we certainly are not going to get it for you. I want to make that very clear right now.

Now, the object of my mission to Europe was to investigate the markets and investigate the conditions of those markets. In addition to opening up the markets of Great Britain, the other markets of the British Empire are wide open and here no Government credits are involved. All you have to do is go there and compete with the manufacturers of Great Britain; and as I have before stated, the manufacturers of Great Britain are not in a position and will not be for some time to take care of the demands of the other Overseas Dominions, so that those markets are all entirely open to Canadian producers.

I had an idea when I went over, and I think we all had, that the markets in France and Belgium would be very important at the present time for Canadian products. They do require enormous quantities of almost everything you can think of both in France and Belgium, but they have problems of their own. They have unemployment problems; they have their army which they are demobilizing and which they have to get back into civil life and to find employment for. In addition they have an enormous financial problem. The result is that they are not in a position to take down the bars and allow their people to buy freely from outside.

We have no conception of the condition of affairs in a country like France. France has an enormous debt. I am told



LLOYD HARRIS
Head of the Canadian Trade Mission

by French authorities that it will be necessary for that country to raise in revenue for the next few years four billion dollars a year in order to meet their expenditure, and they are very pessimistic about the ability of the country to do that. Before the war their gross taxation amounted to a billion dollars a year, and now they find themselves faced with the necessity of increasing that taxation by four times, or to four billion dollars. You can quite see this puts a tremendous burden on the people of that country, and the result is they are adopting a policy—and I can't quarrel with their policy because I think if we were in their position we would do the same thing—that they are going to endeavor as far as possible to look after their own reconstruction work and manufacture the things that are necessary for their own people and gradually get themselves into a position where they can meet the future with a great deal more confidence than they are able to look it in the face at the present time. Belgium is practically in the same position.

In investigating markets which would offer a chance for the sale of Canadian products we began looking further afield. Of course Russia is the greatest field perhaps in the world at the present time, but conditions are such that it

has been impossible up to the moment to do anything along the lines of opening up or developing trade in Russia. However, in other countries in south-eastern Europe the conditions appear to be more favorable, and I devoted a great deal of time to a study of the situation in Roumania, Serbia and Greece.

Roumania was a country before the war with about the same population as Canada and about the same debt. They have suffered cruelly on account of the war, but the basis of their wealth in Roumania is agriculture and petroleum. The people are an agricultural people and a peasant class; they do not manufacture anything for themselves to speak of and the result is that they have to buy all of their manufactured products. As an outcome of the Peace Conference the population of Roumania will probably be increased from about seven and one-half millions to fourteen or fifteen millions on account of their being allotted Transylvania, Bessarabia, and Bukowina, which will give them a population of that extent. This entire territory is very rich in agricultural resources, very rich in mineral resources, and in the Province of Transylvania large undeveloped resources in both coal and iron are there awaiting development, and in addition there are other very important and valuable natural resources in new Roumania which will be opened for development and expansion.

Credits to Roumania

The result of our investigation was that I recommended to our Government that we should consider favorably the granting of a credit to Roumania for the purchase of Canadian goods. This credit has been granted, and under the credit large orders have already been placed in Canada to meet the needs and requirements of the Roumanian people. What we are doing, however, will only be a drop in the bucket compared with the amount of materials and goods that Roumania will really require. They have enormous demands for practically everything needed in a country like Canada. They need a tremendous amount of new railway equipment and material; they need an enormous quantity of clothing, they need everything in the way of household utensils and everything that is needed in the ordinary course of living, besides very large quantities of agricultural implements and agricultural hand tools—practically everything we make in Canada.

If it could be arranged that we could extend further credits to Roumania there is no limit to the amount of business we could secure from that country. But as to the question of Government credits, I am not altogether in sympathy with them myself after having had the experience I have had. I think if we had all the money in Canada that they have in the United States, the proper thing to do would be to take this money and lend it to these countries for the purpose of purchasing to the fullest possible extent goods for these countries. But on account of our own burdens here, on account of the necessity of our finding all the money possible that we can to carry our own load, I think it would be much better for us to devise ways and means and schemes of trying to get at this trade by arranging other methods of credit, and this is going to get us back, if we are going to do it successfully, to the old method of Indian trade and barter. You must remember that every one of these countries in Europe at the present time is in such a position that they are not able to finance. They will be able to finance, however, in the next two or three years when conditions are settled, when they get their new areas arranged, when they get their new populations ascertained and when they begin again to get on their feet and can begin exporting.

In the case of Roumania, I think, next year will see them on an exporting basis again, so that the conditions in that country should clear up very rapidly, and I should think within the next three or four years, conditions will be absolutely sound in a country like Roumania.

Opportunities in Greece

In Greece there are great opportunites offering for Canadian products. Greece is in an exceptionally sound condition as compared with most of the other countries in Europe at the present time. Its finances have not suffered as those of other countries have. The Greeks have perhaps the ablest man at the head of their Government, Mr. Venizelos, of any country in Europe. He is a remarkable man; he has done a tremendous amount for Greece and he has ambitions to make Greece one of the greatest countries of the smaller nations in Europe, and I think if he lives for the next ten or fifteen years he will accomplish that.

We have many negotiations on with Greece at the present time; they are going to require an enormous amount of stuff and it will depend entirely on whether or not we are able to meet the prices and deliveries and quality of goods in competition with other countries as to whether or not we will get it. They are so keen on doing business with Canada, we will get every preference that can possibly be granted by the Greeks, and if we are able to give them what they want and require, they will take everything that we can supply.

The credit we have arranged with Greece is of a two-fold nature. It is a $25,000,000 credit, but $5,000,000 of it is set aside for the purpose of assisting the Greek merchants to buy the staple merchandise they require for distribution amongst the people of the country. This $5,000,000 will be used in that way and the arrangement is that, of all the purchases that they make, 40 per cent. will be paid in cash and the balance will be paid in six, nine and twelve months' treasury bills. When the goods shipped from Canada reach Greece they will be delivered to the merchants and they will then take up the bills as the goods are delivered, so that the $5,000,000 practically will amount to a revolving credit to cover the next year or so until conditions are got in such shape that the merchants will be able to deal direct with our Canadian people.

The Problem of Shipping

One of the greatest difficulties we have had, as you I think will realize, is the difficulty in the way of getting shipping, ocean tonnage, to carry Canadian products away from Canada. In this country we have provided ourselves with railway facilities to get products from one part of the country to the other easily, but when it comes to moving those goods away from Canada to other countries we practically have nothing, and we have to depend upon the ocean tonnage of other countries. We have been altogether too dependent in the past upon the British mercantile marine, and the British mercantile marine is going to be kept, and is at the present time being kept busy in looking after the Allied requirements, and the result is we are having a very great deal of difficulty in moving the goods that are actually being sold in Great Britain from Canada to that country.

In connection with Greece I found they were desirous of arranging for the supply of their wheat. The staple article of food in Greece is bread. I discussed the matter with Mr. Venizelos one day and told him that the importance of feeding their people with the very best food available was such, he ought to consider the fact that if he wanted to get the



Some of the Officials and Members Attending the Annual Meeting

Front row (left to right)—G. P. Ruikbie, Transportation Dept., Head Office; H. Dalton, Secretary, Pacific Division, Vancouver; W. P. Hughes, Secretary, Quebec Division, Montreal; F. W. Stewart, Cluett Peabody & Co., Montreal; T. P. Howard, Phœnix Bridge & Iron Works, Montreal (President); A. K. Cameron, Metal Shingle & Siding Co., Montreal; W. J. Bulman, Bulman Bros., Limited, Winnipeg, (Past President); J. E. Walsh, General Manager; J. A. McMahon, Union Drawn Steel Co., Ltd., Hamilton; H. E. Waterman, Secretary, Hamilton Branch, Hamilton; H. O. Kerr, Kerr Engine Co., Limited, Walkerville.

Back row—S. B. Brown, Assistant Manager, Transportation Department; ————————; T. F. Monypenny, Imperial Varnish Co., Ltd., Toronto; F. R. Whittall, A. R. Whittall, Can. Co., Limited, Montreal; W. C Coulter, Booth-Coulter Copper & Brass Co., Limited, Toronto; J. C. Watson, Lieut. Wallace Watson, and G. Johnson, of John Watson & Son, of Montreal, Limited.

best bread in the world he ought to use Manitoba wheat. He thought this matter over for a few days and he came back at me and said he quite agreed with the proposal I had made and he was prepared to enter into a contract with Canada to supply them with their entire requirements of wheat for the next twelve months. We then arranged a contract under which he wanted us to take care of the movement of this wheat from Canadian ports to Greece; and, not having any boats in my pockets or up my sleeve or anywhere else that I could find, I told him that we would have to think the matter over and see what arrangement could be made to take care of the movement of this traffic. Finally, I found that the Supreme Economical Council—the food section of it—had about 75,000 tons of Greek shipping which they were using in conveying food supplies for the various allied countries in Europe, and we arranged with the Council that, in the event of Greece releasing them from any responsibility of feeding them, they would release this 75,000 tons of shipping. So that happily we were able to make an arrangement with the Greek Government whereby they not only buy this wheat in Canada, but they take the responsibility of carrying the wheat from Canada to Greece. This means there will be about 25,000 tons of Greek shipping coming into Canadian ports every month for the next twelve months, and in addition to carrying wheat that will provide the necessary transportation for any goods that you gentlemen or that we may sell in Greece from Canada. So that we were able to get over this particular difficulty in this way.

Now I said a few minutes ago we had to get back to the old system of trade and barter. I have had a negotiation recently which will illustrate how this can be done. Personally, I am anxious to get all these trading matters and the carrying on of actual business out of the hands and out of the control of Governments. The only way to do this business right, and the only proper procedure to follow, is to force business back as quickly as possible into natural trade channels and force the people who have goods to sell to do business with the people who want those goods, and get them together and let them go on and carry out their own business arrangements and business relations. The organization which I have got together in London has I think been of enormous advantage to the people of Canada and will continue to be of enormous advantage to them, only my idea is that we cannot do for you and we will not do for you what you ought to be doing for yourselves. If the effort is not worth while to go out and get this business, then the business itself is not worth while.

I have had a proposal from the Russian Provisional Government in south-eastern Europe, over which General Denkin presides. They want an enormous quantity of stuff. They have not got any money to pay for their stuff, but they have an enormous amount of goods and materials of one kind and another. I am just going to read you a list of the materials they have and which they are ready to swap for Canadian goods, and you will see from this list that quite a considerable quantity of these materials can be used in Canada and are needed in Canada, while those that cannot be used in Canada can be easily marketed in other sections of the world where there is a ready market for these materials.

The quantities here are in poods. A pood equals 36 pounds:

Hides, 100,000 poods; that would be 3,600,000 pounds.
Potash, 200,000 poods.
Tobacco, 500,000 poods.
Cement, 1,000,000 poods.
Wool (varying quality), 200,000 poods.
Sausage casings, 20,000 poods.
Dried blood, 20,000 poods.
Pig bristles, 10,000 poods.
Liquorice root, 10,000 poods.
Oak staves, 200,000 poods.
Horse hair, 60,000 poods.
Sheepskins, 100,000 poods.
Cattle, 20,000 head.

Benzine, 10,000,000 poods.
Fruit oil, 5,000,000 poods.
Lubricating oil, 1,000,000 poods.
Axle grease, 100,000 poods.
Alcohol, 45,000 gallons.
Iron ore, 50,000,000 poods.
Wine, 1,000,000 bottles.
Champagne, 100,000 bottles.
Manganese ore, 10,000,000 poods.

Will I tell you what they want? They want 88,000,000 yards of cotton textiles and woolen cloth for men's and women's clothing. Does anybody think that the textile industry of Canada could turn out 88,000,000 yards of stuff?

They want 100,000 gross of cotton thread on spools; they want a million pairs of boots and shoes; they want rubber goods, goloshes, 1,500,000 pairs; heels for boots, 2,000,000 pairs; rubber sheeting, 7,000 yards; automobile tires complete with inner tubes, 3,000; bicycle tires, 2,000; inner tubes, 3,000; carriage tires, solid, 5,000; surgical and technical instruments, detailed specifications to follow, but quantity is equivalent to value at pre-war prices, of $500,000; agricultural machinery (Russian type) including self-binders, reapers, mowers and horse rakes, tractors, drill seeders and threshing machines; binder twine, 400,000 poods; medical supplies, detailed list to follow, cost at pre-war prices $220,000; miscellaneous carpenters' and blacksmiths' tools of all kinds; belting, lathes of various kinds, amounting in quantity to 2,500 lathes; tool steel, zinc, lead and tin, alloys, paints of various kinds, enamelled kitchen ware, kitchen utensils, including 10,000 sausage grinders, scythes, pitchforks, saws of various kinds, lifting jacks, steel rope, steel wire; office furnishings, including typewriters, pens, pencils, paper, stamps, etc., value at pre-war prices, $2,000,000; railway equipment (a separate specification is in course of preparation which will be a tremendous list).

Business Must Be Organized

You see what a varied list that is. It covers a tremendous number of our industries and practically all those we could supply in part. Of course the quantities are so large, in some cases it would be absolutely impossible for us to carry the thing through in toto.

What is to be done on a proposition of that kind is that the proper kind of an organization has got to be got together and the people here who can supply these goods have got to get in touch and form their own organization with the people who want the goods on the other side, and set up the necessary machinery to look after the gathering together of the goods, the shipment of them, the delivery of them in Black Sea ports, and in return to collect from the Black Sea ports the materials which they are ready and willing and anxious to give in exchange for the goods we can supply from Canada.

I am just mentioning that, because if we are going to go after this thing; if we ever showed resourcefulness in Canada in the past, we have got to show it at the present time, if we are going to take the fullest possible advantage of the situation that actually exists to-day.

Now I have just dwelt very briefly upon the possibilities of the development of Canadian export trade. The one thing that has impressed itself upon my mind and upon the minds of my whole organization in London is the fact that we in Canada are so totally unprepared and unfamiliar and uneducated in the question of export trade. We set up our organization in London, and if I do say it myself, we have got a pretty live organization there. I see quite a number present here who have been in our offices frequently in London. We have got a very live organization and we are anxious and willing to give every possible assistance to every Canadian who comes over there, and we do everything we possibly can for them, with the exception of actually going out and getting orders for them and handing them over to them on a silver platter.

A Word of Criticism

This is going to be critical for a minute or two, because I think we want to have this talk perfectly frank. Did you ever send out a man to do business for you without a catalogue or without any information, without prices or without anything? When we opened up in London, I don't think there were more than 15 or 20 Canadian firms that had even sent out catalogues of their products. We had no prices and, with the exception of very few cases, there were no representatives there of Canadian industries with whom we could get in touch to get the necessary information to answer the enquiries we were beginning to get immediately on our arrival. You cannot make us feel badly by overdoing us with catalogues and prices and descriptions and every information you possibly have about the goods you have to sell. When we have enquiries we will turn these over to the proper parties.

When I went over to Great Britain I asked the companies in Canada, who were strong enough financially, to send representatives over to Europe, to send such representatives with full authority to act, and with full knowledge of the capacity, prices, deliveries, etc., and with samples, where possible, of the goods that were produced by their respective companies. All the companies were not able to do this as individual companies, but group companies coming over sent a representative representing a group of industries. I might say that almost immediately after my arrival there, a representative of a group of one of our important Canadian industries was right on the ground. He had followed me right over there. I refer to the woolen industry. They sent a very live man over there, a Mr. Carley, and I would like to say, if I had twelve or fifteen or twenty Carleys over there, I could do such an enormous thing for you people that it would simply raise your hair. Carley is a real live wire and a great Canadian and has done magnificent work. He had the information I wanted; he had his samples all in fine shape and they were beautiful samples; he had his prices and he was able to show and talk his goods and the quality of them. The result of that was that the woolen industry immediately benefitted by having him there, and I presume that the woolen industry is one of the industries of Canada at the present time that is fuller of business than any other industry in the country, and it was for the reason they had a live man on the job.

What Various Industries Did

Afterwards other industries followed suit. The clothing men came over and sent over live representatives; that being an affiliated or allied industry with the woolen industry, the two simply worked together and I think they are filled with business. The cotton men came along, not grouped, but as individuals, and this is interesting at the present time, the cotton industry being looked upon as one of the key industries of Great Britain. What have the cotton people done? They have found they are producing cottons in Montreal at the present time cheaper than they are in Manchester and that they are able to compete not only with Great Britain but with the United States on their finished cottons, and they have got a large volume of business.

The paint and varnish industries came over. Mr. Ramsay came over. All of these men that came over I think got a

great deal more than they ever expected they would get. But, conditions over there are such and the demand is such at the present time, that you men who are sitting back here thinking there is no use going into the British market, where no Government credits are necessary, if you went over there and made a thorough investigation of the market, would be tremendously surprised.

The Boot and Shoe Industry

The boot and shoe industry is one capable of tremendous development in this country. There are about 250 boot and shoe manufacturers in the country, but they have not been able to get together. If that industry was taken hold of and properly organized and the right man or men sent over there, there is no question in the world but what the industry could have an enormous development and a tremendous export trade could be done in boots and shoes from Canada. The quality of the boots and shoes made in Canada, I am told by those who have examined samples of our Canadian boots and shoes, is as fine as anything that has been offered over there, and the prices are more favorable. The boot and shoe industry, before they go into that market and get business, have got to study the designs necessary and make the boots and shoes the people want. Because we make boots and shoes for the Canadian people is no reason why those boots and shoes are saleable and will be taken by the people over there. They don't want them at all. You have got to go to work and find out what these European countries want in the way of designs and styles of boots and shoes and supply them with what they require.

I just have a few memoranda here that were made up by some of my people in our office just to show you why we were unable to close and deal with enquiries that were coming to us on boots and shoes. We cabled Ottawa on February 17th for prices, and prices commenced to arrive about the end of March and continued to do so during April. Before sufficient information, prices and samples were received, however, the order that we were going to get had been placed, consequently we were unable to deal with that particular item.

Take cream separators; we sent over an enquiry for them, and under the conditions ruling in our Government credits, the Government desires that everybody manufacturing any particular article must have an opportunity of quoting. The way that works out is this: On cream separators we cabled for prices on the 14th March; prices began to arrive about the beginning of April and continued to do so until the middle of April; catalogues and illustrations, however, were not received until the end of April. A period of over two months elapsed from the time we requested quotations until sufficient information was obtained to enable us to place the matter intelligently before the people enquiring. By this time the business had been placed and we were unable to secure it.

Dairy Utensils

Take dairy utensils—you don't mind my mentioning your name, do you, Mr. Beatty? In this connection we would point out that Mr. M. J. Beatty, of Beatty Bros., Fergus, Ontario, has submitted a report to this Mission on his trip to the United Kingdom. From this report we have come to the conclusion that there is a wonderful opportunity for Canadian manufacturers of dairy utensils in England at the present time. Mr. Beatty points out that prices for this line of goods are three or four times as high as in Canada, and that practically nothing has been done in England during the war in getting out new styles. That is for the information of the dairy utensil manufacturers.

Bed-springs and mattress fillings—we began to get enquiries from the French Government and asked for quotations on these lines in February. Prices came dribbling in early in April to well on in May and samples and catalogues were not received until the middle of May.

Here are some general comments written by some of the members of my staff: "It has been brought to our notice by several firms here that Canadian manufacturers and others are very lax in not replying to correspondence and enquiries, and it is having the effect of creating an impression that Canada as a whole is not looking for business or making much effort to get it. You are well aware how small trifles of this kind create a false idea as the people in the U.S. are very particular about prompt replies to enquiries and furthermore carry on a regular follow-up course of correspondence. Not only has it a bad effect in creating an impression of slackness, but it is also causing some of the importers here to make strong representations to the Government to remove the restrictions from other countries that are not within the Empire.

"At the present moment Canada is, as you are well aware, particularly favored in this regard as compared with the United States, but if the representations of the importers are sufficiently strong and insistent, the Government will be forced to allow certain commodities to be brought in here on a par with Canada because these commodities cannot be procured, or apparently so, within the Dominion.

Some General Comments

"Particular reference is made to all classes of wooden goods such as clothes pins, dowels, broom handles, etc. Also complaints are made relative to lumbermen not even replying to correspondence. Even if they have not got the stocks on hand, or do not deal in the commodities they are asked about, surely it would be a simple matter for them to write a note to the English firm enquiring and explain the situation to them.

"A representative of an English house advised me the other day that he had been waiting on samples on certain items from Canada for the past five years. Every letter he received from the Canadian producer advises him that the samples are 'coming by the next mail.'"

Here is another one: "The British Overseas Trade Department operating under the British Board of Trade are doing everything possible to co-operate with us and we have been in close touch with them. They have at very great expense, and which involved a very great deal of work, prepared lists of importing houses and buyers of merchandise in European countries, and have offered that these lists would be supplied upon request from our office or to the manufacturers in Canada direct. An instance was brought forward, however, to show that information of this kind supplied the Canadian manufacturers is sometimes divulged to export houses in the United States. In the particular case which he mentioned a certain Canadian firm had requested a list of the buying houses in Marseilles, France. This had been forwarded, and to the surprise of the Overseas Trade Department the information had been acknowledged by an export commission house in New York City. Such export commission houses will no doubt use this information to assist their American clients."

That is not the way to play the game. We are trying to play the game with the British and make it an import proposition. Our friends on the south are doing everything possible to develop their trade and we are doing everything

possible to develop our trade, and we can do this thing and do it right, but they are not giving us any information from over there, and why should we hand them information that we have from over here?

Now, we sent out enquiries about different articles through the Canadian Trade Commission at Ottawa, and in some cases we have had cables direct from manufacturers in Canada here. Here is one instance: "Anxious get order, ascertain price we have to meet and cable quick so we can answer Ottawa on your enquiry." If a man has got stuff to sell surely to God he ought to have a price on it. Some of our people just want to get all the traffic will warrant.

We sent out an enquiry for three thousand tons of sugar to be delivered to a certain European country within twelve months. We get an answer back: "Canada can supply three thousand tons of sugar within twelve months. What price offering?" How do we know what price they are offering? They are not offering any prices; they are asking us for prices. We can't go out and ask them what their price is.

Here is another one. I won't mention the group, but a group of industries got together and formed a special company, and sent their representative over to Great Britain, and, by the way, this representative has got all the business that this particular group can do for the next twelve months, but somebody in the group evidently wasn't satisfied that the other fellows would play fair, so they sent their own representative to Great Britain in advance of the representative who was sent over by the group, and they have quoted firms in England lower prices than those which were authorized by the representative of the group. What do you know about that?

How Business is Lost

We got an enquiry for an article, cabled over about it and I got a very chesty cable back quoting prices and so on, and winding up, the last clause of the reply was "Offer subject to acceptance at once." I put in a quotation to the Government which made the enquiry in due course and two or three weeks after I got word from them that the Canadian price was too high. I cabled out to Canada to this effect and got the answer back: "Would like to know the quotation received from such and such a country in order that they may meet this competition." The business was gone.

Those are just a few. I thought perhaps I could bring the thing to a focus and get it pictured on your mind better by just quoting a few of the things that are happening every day in our office and the position we are in on the thing. We are trying to do everything possible to help you; we are working nights, days and Sundays, and you know that John Younge, whom you all know so favorably—John wanted to come out here and just have an opportunity of talking to you men himself. I am going to let John come out next Christmas and perhaps he will hand you a good Christmas box if he can get it all together. Our lot is not a bed of roses over there. We have a tremendous lot of problems and a tremendous lot of difficulties.

Now, another matter that I was asked to take up is the question of trade marks, patents, etc., and this is a matter which, as you get into export and foreign trade, you will find is of very great importance. The British manufacturers who have engaged in trade in the past have had a tremendous amount of trouble with the Germans on account of legislation not having been considered sufficiently important and having been put on the statute books. One thing we want to do in starting in on our foreign trade is to establish our own Canadian trade marks and our own trade mark design particularly of "Canada," and one of the things we have got to guard against will be to see that everything that goes out of this country with the trade mark "Canada" on it is up to a standard of quality, which will not only sell that stuff, but build up for the product a permanent market. So that it is very important that this question of trade marks should be early considered, and I think we should co-operate with those in Great Britain who are working on this same thing.

Question Surrounded with Difficulties

Now, I am trying to get over a lot of ground in a very short time, and if I am wearying you I will sit down in a minute. You see that this whole question of export trade is surrounded, as I before stated, with an enormous number of difficulties. However, the situation at the present time is that the reputation of Canada has been established throughout Europe and throughout the world because of the part that we have taken in the great war. The men that we have sent out from Canada in the Overseas Forces have made a reputation for this country which is higher than anything I know of. The reputation now belongs to Canada, and the continuing to keep that reputation depends entirely upon the rest of us who have in our hands the future development of our industry and commerce. Our boys who have gone out have left us a tremendous asset, and the people of Europe appreciate what the Canadian soldiers have done, and they appreciate also the fact that Canada went into this war not under any compulsion at all but for the purpose, as they think, of relieving them of the iron heel of Prussianism and despotism under which they have been living so many years. They know we have nothing to gain in the matter; we have no territorial ambitions, we have nothing to look forward to except to establish friendly trade relations with them and they are anxious and willing to meet us more than half way. So that the challenge is out now for the manufacturers and commercial interests of this country to maintain the reputation which has been so ably and magnificently built up by the men who have gone out to fight our battles for us. I have a great deal of confidence in Canadians, and I have a tremendous confidence in our ability to do anything that anybody else can do. The experience I had in Washington showed me we could tackle any job as well as our friends to the south, and the bigger the job the better we ought to do it. We did that in the war, and now I know that we can go ahead and carry out this magnificent programme which is so necessary to the future of our own country.

The Exhibition at Athens

I have just two other things I want to mention. There is going to be an exhibition at Athens, in Greece, for a month commencing the 13th October next. This exhibition is going to be carried out under the auspices of the Federation of British Industries. It is too late for us here to take the matter up and have individual exhibits, but I have arranged with the Federation of British Industries that they will allow us the use of the entire centre court of the Azpion, one of the old temples of Greece, in which the Exhibition is to be held, and all we could do in the space we have there would be to get together a very attractive exhibit of Government goods, a very condensed exhibit perhaps of cereals, and I think the Canadian Pacific Railway Company would take part in the exhibition and send down there the very attractive exhibits that are at present being shown in Paris, but it will leave two spaces of about 50 feet long, and I would like the Canadian manufacturers to take in hand the preparation of a condensed exhibit of manufactured samples.

What we need in London at the present time more than anything else is an exhibit of that kind. It is not necessary in London to have every firm in the country send over an

exhibit and duplicate a whole lot of things, but if we only had in some place in London, in a small room not any larger than this, a very carefully prepared exhibit of samples of our manufactured goods, of all of our smaller goods, not the large things—we can show those by large photographs and other ways—but for instance if we had in the ground floor of British Columbia House, in which our offices are located and which are in a magnificent central position in London, just a condensed exhibit of that kind so that, when these people come in, we could simply take them out there and say, this is a sample of what we make in Canada, it would be of enormous advantage, and I think it would help us a thousand fold. That is the kind of exhibit I would like to get together for Greece.

I will discuss this matter with a small committee or with the president later on, but I wanted to just mention it to you to impress upon you the necessity of having something of that kind. I never felt so handicapped in all my life over there trying to be a commercial traveller for you men without a darned thing to show, not even a catalogue, and when I went down to Lyons Fair and saw the magnificent exhibit of those who had initiative enough to go to Lyons Fair, I was tremendously proud of what we can do in Canada. We can prepare a condensed exhibit of this kind which would be an enormous attraction to thousands of people that we could show the exhibit to and it would be a tremendous help.

The question of an exhibition train was up and I was cabled about it and I turned the thing down. I don't think that is what we want at all over there. You take an exhibition train that is got together at very great expense and it does not fill the bill in my opinion at all. And if the fellows go over on that train they have a fine joy ride and all that kind of thing, but for the purpose of actually doing business it does not do what I think it should do. But if we are going to continue the Canadian Mission in London—and I think the Government should continue some sort of an organization such as we have and keep it a real live organization, because after all, our trade matters are the most important matters we have to look after in Europe, and the British Government the same way; they are waking up to the fact that trade is really the most important thing to the British nation; we have got to have something to show and, if we had just such an exhibition as I am attempting to describe, I think you will all agree with me it would be of great assistance to all of us. We don't want any names of manufacturers on it but just to take samples of the goods we make here and put them all together, and use a lot of ingenuity and resourcefulness in building them up. Take some of our raw materials; for instance, take a bunch of asbestos and have above it the different articles made out of raw asbestos, and in the same way some of our other materials, and we could get together a tremendously attractive exhibit. There is no use putting a Canadian exhibit in a place like the Imperial Institute. We have fine exhibits of our minerals in the Canadian Institute but nobody goes to look at those for business reasons; a lot of mineralogists and scientists go there, but generally the place is dead, and we want to get our manufactured products and samples in some place that is actually alive. If it is anywhere around the Canadian Mission in London, I can assure you it will be in a good live spot.

Now, Mr. President, I think I have covered as much ground as is necessary, and I want to thank you for this opportunity of addressing the C.M.A., and I want to tell you all that, so far as we are concerned in London, we are ready to go ahead and devote a few more months to this work, but so far as I personally am concerned I also want to notify you I am not going to continue this all the rest of my life. I want to get through with this as soon as I can and get back into private life and look after things that are so urgently requiring my attention at the present time. I have been glad and have enjoyed thoroughly being of service to Canada. Now, I have not done this for the manufacturers of Canada alone; I have done this work that I have been doing for the whole people of Canada, and I have been glad to do it, and if I can go on and spend a few months longer and can do any real service by continuing I will be glad to do it. I thank you all gentlemen, for your very kind attention.

Amendments to the By-Laws

AT the Thursday morning session of the convention, the first order of business was the consideration of amendments to the by-laws. The General Secretary, Mr. J. T. Stirrett, was requested to go through the various amendments, explaining their nature and purpose,—

MR. STIRRETT: "In regard to circular number 192, this long list of changes is chiefly technical and is caused by the necessity of renumbering. There are four main changes suggested and all the others group themselves around these suggested changes and follow them automatically. The first change is for the creation of five divisions which has been referred to in the reports already read, and the setting up of the machinery for their operation. The second is the substitution of five vice-presidents, or one for each of the proposed divisions, instead of the present arrangement. The third deals with committees,—first the enlargement of the Executive Council by taking in the chairmen of the standing committees. Then the abolition of the advisory committee and the creation of three new standing committees, the Publishing Committee, the Industrial Relations Committee and the Commercial Intelligence Committee. The fourth chief change is a change in the by-law necessary to provide for the increase in membership fees."

The Secretary then read the proposed changes in the by-laws which were considered clause by clause and were each adopted. With reference to clause number 25 providing for increase in fees the President said: "Now is the time for increased fees. I don't believe there is any question that the members of this Association are ready to increase their fees." (The clause was carried unanimously with applause).

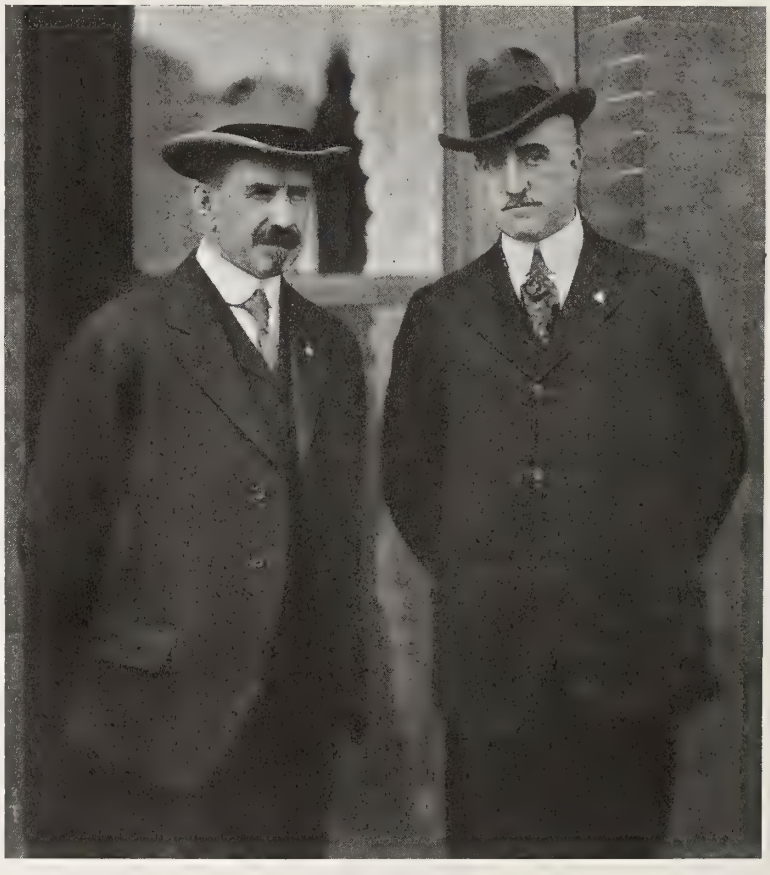
MR. PARSONS: "Mr. President, we have passed over these changes so rapidly this morning that perhaps we have not quite comprehended or fully comprehended the significance of them. I know that there is no explanation of them really needed. I suppose of course that this intelligent body of men cover the matter in their minds pretty fully, but while I am on my feet I would like to make a remark or two and that is along the lines of arranging for the divisions and the better working out of all our arrangements from a national point of view. We felt that those who were occupying the positions of chairmen of the different branches should have a little more of official recognition than they would have simply as chairmen. For instance, take my good friend Mr. Fisher here, who for years has acted as Chairman of the Maritime Provinces branch and who has given magnificent service to that Branch. It would be better as you will all agree to dignify him with the position of vice-president of the Association than simply Chairman of the Maritime Provinces Branch."

New President Elected; Mr. Bulman Thanked

Association Welcomes Its New Chief Executive and Renders a Tribute to Its Retiring President—Mr. Bulman Urges that the National Service being Rendered by the Association Should be Proclaimed—Voices Hopeful View of the Future

FOLLOWING the adoption of the amendments to the by-laws, the next order of business was, the election of officers, these being nominated by the Committee on Nominations and Resolutions. The complete list of officers and committees thus nominated and elected will be found on page 233. On being called to the chair the new president, Mr. T. P. Howard said:

"I thank you, gentlemen, for the honor you have conferred upon me and I thank you doubly for the reception you have given me. I don't look upon filling the chair vacated by Mr. Bulman as any sinecure; on the contrary I think I have got a very hard job. The presidents of the Association, as you look back, have all been very prominent men; they have all given up a great deal of time and have carried on the affairs of the Association, I think, in a wonderfully good and clever way. I can only say I will do my very best to meet with your approval, and if I get as good a reception at the end of the year as I got at the start I will be very well satisfied."



Past and Present

Messrs. W. J. Bulman, the retiring president, and T. P. Howard, his successor, face the camera man at the recent Toronto Convention

MR. HENDERSON (Windsor): "Before the other officers are read out I want to do something which I am sure will please you and possibly all the other members of the Association. No one who has not occupied the position of President of this great Association can realize the amount of labor which is involved and the amount of time which has to be spent in looking after the affairs of the Association. I thought the year 1914-15, possibly was one of the most serious times for any man at the head of this organization, but this last year has been equally if not more so. Fortunately we have had such men as our retiring President at the head of affairs. I know he is a somewhat bashful fellow, but really gentlemen, we have had a man who has given all his efforts for this organization. It is a great honor to be President of the Manufacturers' Association, but it entails a great responsibility, and I am sure you will all agree with me that in Mr. Bulman we have had the right man in the right place. (Applause). He has devoted a great deal of time and attention to the affairs of the Association, and I think that during his term of office,—although I can't find very much to criticise in the Association and in its organization,—yet I think that certain improvements have been made. I don't want to take up your time but I simply rise, Mr. President, to move a vote of thanks to our retiring President for the energy and wisdom he has displayed during his term of office."

MR. PARSONS: "Mr. President, I have very great pleasure in seconding the resolution or question moved by my friend, Mr. Henderson, and it is quite unnecessary to add anything to his splendid words in recognition of the capital services which Mr. Bulman has rendered this Association during the past year. I think I can speak rather feelingly of the responsibilities of the work of the Association. So far as honors are concerned I have always held it was the greatest honor that could fall to the lot of any business man in the Dominion of Canada to be elected President of the C.M.A. That honor carries with it tremendous responsibilities which have been undertaken fully and completely by Mr. Bulman. I am sure we are all particularly glad that the last year's tenure of office fell to the lot of a western man. It shows the national character of our Association; and now we have a man that, I suppose we will say, is from the east, although not so very far removed from us, and so from year to year, as we make our selection, it is a satisfaction for the Association to know that those who go out of office as well as those who come in are as well fitted to undertake the responsibility. I have much pleasure in seconding the motion."

MR. HOWARD: "Gentlemen, I am going to call for a standing vote and three cheers for our retiring President."

A standing vote and cheers were given for Mr. Bulman, followed by the singing of "For He's a Jolly Good Fellow."

Mr. Bulman: "Mr. Henderson, Mr. Parsons, and gentlemen: As they have told you, I am a bashful man and your expressions in regard to myself have somewhat overpowered me. I realize possibly more since filling the chair of this Association the national importance of the Association. I realise many things that I didn't realise before I was so closely in touch with the operations of the Association, and

I believe that the Association is possibly the most necessary body in Canada at this time. We have with us in the West preachers and agitators who get up and tell the working men of that country that they should form one big union because the manufacturers have one big union. I think, gentlemen, that if the laboring men knew what this Association did, what its work was, they would realise that this Association in its efforts for the development of industry in Canada was as much for the working man as for the owner of the factory. (hear, hear).

"We are in no sense a union as they understand a union, but I think that as time goes on and labor, real labor, in Canada understands this Association, they will look upon it as the best friend they have in the country. We leave bargaining between capital and labor to the employers' associations and other organizations, and the efforts of this Association in a broad way are for the development of industry in Canada, and, if the development of industry in Canada does not mean more jobs, more wages and improvement in their conditions, then we have not succeeded. I think, gentlemen, that as time goes on we should make clear to the whole public of Canada that we are performing not a selfish service but a national service, that we were endeavoring to develop that part of the commercial life of Canada affecting industry, not for our own profit but more as stewards of industry for the Dominion of Canada, in the hope of building a nation here.

"We in the west are overpowered by agricultural thought; a lot of their propaganda and work is of the most selfish character, and I think members of this Association can do a great national service if they will make their efforts of national value rather than of selfish and personal interest. We cannot develop industry in Canada without protecting it in all its phases. Labor may think some of our actions are opposed to them; really in essence they are in their best interests. The same way with the tariff; it is in the best interests of Canada as a whole. We take the position we do because we so believe, and I think the slurs and attacks upon the Manufacturers' Association are simply made in ignorance of the Association. (Hear, hear). We should be commended and we should be the most popular body in Canada, and we will be, I am quite certain, when we have men who will make clear to the public of Canada, just what this Association is doing every day. If the public knew what this Association was attempting to do through its officers and its daily work, we would get the recognition for the service we do that we are entitled to.

"I, in the west, have preached that doctrine and, while I have been in a territory afflicted by all kinds of trouble and that seems to be the source of all kinds of agitation and development of late, yet I believe, when this labor trouble in Winnipeg is over, when the budget is passed, in a few years you will find the sentiment of the country changed. There is a big portion of the community, a large number of the farming community, who are not behind the Grain Growers in their propaganda. We have many times had gatherings of men who make their livelihood on the land, who repudiate the Grain Growers, the political association, and if these men were given a voice, if they had an organized voice, I think the menace of that agitation would be merely a sectional one and not entitled to the title 'Western movement.' It is not a western movement; it is a class movement, and I think that class movements whether it be labor or agriculture or manufacture or industrial will not succeed in Canada."

Resolutions Passed by the Convention

A Broad Field Covered by the Resolutions Committee in its Pronouncements on Various Questions Affecting Canadian Industry

PROBLEMS of labor and the tariff bulked largely in the series of resolutions which were presented to the convention by the Committee on Nominations and Resolutions, but a wide field of industrial activity was covered as well. Following are the resolutions as drafted and presented to the meeting:

Industrial Relations

WHEREAS, there should be a close association between employers and employees, whether labour is organized or unorganized, and

WHEREAS, co-operation would go far to establish the complete identity of interest between employers and employees and stabilize society, and

WHEREAS, this Association throughout all its history has realized that the interests of employers and employees are inseparable in the industrial development of Canada, and, consequently, has always endeavored to serve the best interests of employees as well as employers,

THEREFORE, BE IT RESOLVED, that the Canadian Manufacturers' Association in Annual Meeting assembled on June 12th, 1919, in Toronto, cordially welcomes the appointment of a Royal Commission on Industrial Relations, and pledges its co-operation and support to the Dominion Government in its timely efforts to secure a more complete knowledge of industrial conditions and better relations between employers and employees.

Punishment of Revolutionaries

WHEREAS, the peace and happiness of the people depend upon the maintenance of law and order, and

WHEREAS, the people of Canada are united in their determination to retain a type of government which is founded upon the principles underlying British constitutional liberty, and

WHEREAS, it has been the theory and practice of British peoples that changes in either the form of government or the constitution of society should be evolved gradually by lawful methods rather than by intrigue and intimidation with revolutionary intent,

BE IT THEREFORE RESOLVED, that the Canadian Manufacturers' Association in Annual Meeting assembled in Toronto, on June 12th, 1919, record its opinion that all those persons who attempt to undermine the existing form of government in Canada and the substitution of any other form of government should be summarily punished, and that if they are aliens they should be immediately deported.

Strikes of Civic Employees

WHEREAS constant and adequate police, fire, water and other protection are indispensable wherever people live in close proximity, and

WHEREAS, grave dangers to life and property, and injury to the public welfare immediately result from any interference with the continuity and adequacy of this protection, and

WHEREAS, on several occasions in Canada certain civic employees have forsaken in a body the performance of their duties, and

WHEREAS such action cannot be justified in any circumstances,

BE IT THEREFORE RESOLVED, that the Canadian Manufacturers' Association, in Annual Meeting assembled in Toronto, on June 12th, 1919, ask the Dominion Government to enact legislation necessary to prevent strikes among civic employees, while at the same time making ample provisions for the redress of grievances and the hearing of complaints.

Labor Legislation

WHEREAS, the peace treaty will contain certain clauses in reference to international labour conditions, and

WHEREAS, Canadian industry must compete with the industry of other countries,

BE IT THEREFORE RESOLVED, that the Canadian Manufacturers' Association in Annual Meeting assembled in Toronto on June 12th, 1919, record its opinion that legislation which would place Canadian industry at a disadvantage in international competition should not be enacted until such legislation becomes effective in the chief industrial countries of the world.

Tariff Commission

WHEREAS, demands are made at frequent intervals by various sections of the Canadian people for radical changes in the Canadian Customs Tariff, and

WHEREAS, such demands prevent the determination of the settled policy that is necessary for the development of industry and trade, and cause depression in business, unemployment and imperil invested capital, and

WHEREAS, it is of vital importance that all industry should have reasonable assurance of stable conditions which will not be adversely and suddenly disturbed by unexpected and imperfectly considered tariff legislation,

THEREFORE, BE IT RESOLVED, that the Canadian Manufacturers' Association in Annual Meeting assembled in Toronto, on June 12th, 1919, respectfully urge the Dominion Government to appoint a permanent tariff board, acting in an advisory capacity to the Government, which will make a scientific study of the Canadian Customs Tariff and the tariffs of other countries with whose products Canadian producers are forced to compete, familiarize itself with costs of production at home and abroad, investigate the nature and probable national effect of all requests for tariff changes, and endeavor to frame a tariff that will serve the best interest of Canada, and thus assure the harmonious and all-round development of the country.

Imperial Preferential Tariffs

WHEREAS, Canada was the pioneer amongst British countries in providing customs tariff preferences for imports of British products, and

WHEREAS, the policy of customs preferences, designed to develop and consolidate Imperial ties of sentiment and trade, is now finding favor with other British countries and is being advocated by them, and

WHEREAS, the British tariff preferences provided by the Dominion of Canada are more extensive than the preferences provided in the fiscal policy of any other British country,

BE IT RESOLVED, that the Canadian Manufacturers' Association in Annual Meeting assembled in Toronto on June 12th, 1919, earnestly petition the Dominion Government to exercise its influence to hasten the adoption throughout the Empire of substantial customs preferences for Empire products, corresponding to the preferences now provided in the customs tariff of Canada.

Tractor Industry

WHEREAS, the removal of the tariff on certain farm tractors has practically destroyed the Canadian tractor industry and given to the United States employment in a rapidly expanding industry which at the present rate of consumption would support 18,000 Canadian citizens, and

WHEREAS, it is impossible to build up a Canadian tractor industry in the face of unrestricted competition with the United States,

BE IT THEREFORE RESOLVED, that the Dominion Government be urged to enact legislation which will restore to Canada the tractor business transferred to the United States through the removal of the tariff, and permit the development of an industry suited to the economic needs of this country.

Government Ownership of Railways

WHEREAS, the Dominion Government has been compelled to take over and operate two transcontinental railway systems, and

WHEREAS, these systems are not yet paying the cost of operation, and deficits incurred by them must be borne by the tax paying public, and

WHEREAS, competition is absolutely necessary in order to secure proper and adequate service,

BE IT THEREFORE RESOLVED, that the Canadian Manufacturers' Association in Annual Meeting assembled in Toronto on June 12th, 1919, place itself on record as being opposed to any further acquisition or operation of railways by the Dominion Government.

Shipping

WHEREAS, the farmers and manufacturers of Canada will suffer great loss if adequate tonnage is not available during the coming autumn for the shipment of agricultural and industrial products to Europe, and

WHEREAS, the possibility of increasing our export trade is largely dependent upon the volume of available shipping,

BE IT THEREFORE RESOLVED, that the Canadian Manufacturers' Association in Annual Meeting assembled in Toronto on June 12th, 1919, endorse the policy of the Dominion Government to create a Canadian merchant marine, and further, that the Government be urged to take the necessary steps to build, purchase or lease sufficient ships to satisfy the demand for tonnage.

Export Trade

WHEREAS, the gross public debt of Canada has been multiplied by five during the war, and

WHEREAS, the balance of trade is against Canada and, therefore, in international trade Canadian money is at a heavy discount, and

WHEREAS, to increase our export trade is the most certain method of reducing our national debt and of restoring both our trade balance and exchange to normal conditions,

BE IT THEREFORE RESOLVED, that the Canadian Manufacturers' Association, in Annual Meeting assembled in Toronto, on June 12th, 1919, commend the Government for the steps it has taken to extend this country's export trade, and urge upon the Government the necessity of sustaining such action, and that it appeal to its own members to increase and consolidate their trade with other countries.

Technical Education

WHEREAS, the future of Canadian industry greatly depends upon the degree of skill attained by industrial employees, and

WHEREAS, our educational system has been deficient in providing the necessary facilities for acquiring such education,

BE IT THEREFORE RESOLVED, that the Canadian Manufacturers' Association in Annual Meeting assembled in Toronto, on June 12th, 1919, convey its gratitude to the Dominion Government for its wisdom in passing the Technical Education Act at the present Session, and further, that the Association urge upon the Provinces the necessity for availing themselves of the facilities provided by the Act with the least possible delay.

National Conference on Moral Education

WHEREAS, a National Conference on Moral Education in the schools in relation to Canadian citizenship will be held in Winnipeg, on October 20th, 21st and 22nd next, and

WHEREAS, this Conference is being called for the purpose of discussing the question of moral education and training for citizenship, and

WHEREAS, the Central Committee in charge of the preliminary organization is composed of men eminent in various departments of Canadian national life, and

WHEREAS, the said Committee have supervised the formation of forty local committees throughout Canada, thereby securing national support for its plans, and

WHEREAS, it is essential that in educational matters studies which contribute to the formation of character and high ideals of citizenship should be encouraged,

THEREFORE, BE IT RESOLVED, that the Canadian Manufacturers' Association, in Annual Meeting assembled in Toronto, on June 12th, 1919, pledge its support to the said Conference, declare its sympathy for the aims of those who have convened it, and ask its members to do anything which lies within their power to contribute to the success of so commendable an undertaking.

Commission of Conservation

WHEREAS, the Commission of Conservation has rendered invaluable service to Canada, and

WHEREAS, it is essential that the work of conserving our natural resources should be continued,

THEREFORE, BE IT RESOLVED, that the Canadian Manufacturers' Association, in Annual Meeting assembled in Toronto, June 12th, 1919, urge the Government to maintain the past efficiency of the Commission, to allow no limitation to the scope of its activities, and at the same time to retain the present non-partisan nature of the Commission.

Fire Loss in Canada

WHEREAS, the fire loss per capita is much greater in Canada than in any other country, and

WHEREAS, the fire loss in Canada is increasing rather than diminishing,

THEREFORE, BE IT RESOLVED, that the Canadian Manufacturers' Association, in Annual Meeting assembled in Toronto, on June 12th, 1919, urge the Dominion Government to appoint a Commission to investigate the causes contributing to our national fire loss, and to recommend measures to secure its reduction.

The Metric System

BE IT RESOLVED, that the Canadian Manufacturers' Association, in Annual Meeting assembled in Toronto, on June 12th, 1919, endorse the following resolution which was passed by the National Association of Manufacturers of the United States, at their Annual Meeting held on May 20th, 1919, in New York;

"WHEREAS, national legislation is proposed and is being vigorously urged to substitute the Metric System for our present standards of weights and measures, and

WHEREAS, in the language of the 'British Committee on Commercial and Industrial Policy after the War,' which exhaustively investigated this proposal,

'We are not convinced that the metric system is upon the whole even theoretically superior to the British system, and we are satisfied that the practical objections to the proposed change are such as to decisively outweigh any advantages which are claimed for it.'

THEREFORE, BE IT RESOLVED, that we regard the present period of difficult readjustment from war to peace as a most untimely period in which to discuss or adopt a new system of weights and measures and thus add another to the many trying difficulties of this hour."

Discussion on the Various Resolutions

Resolutions on the Tractor Industry and on Government Ownership of Railways Brings Out Some Pointed Comments from Members

RESOLUTIONS presented by the Resolution Committee were for the most part carried without debate, but in the case of two or three of them, members rose to offer their comments. Following the introduction of the resolution with respect to the tractor industry, Mr. White of London said:

"I am interested, as you probably know, in farm machinery and the tractor business. When the statement was made that the industry is destroyed in Canada, I wish to state that, when the Order-in-Council in February, 1917, was passed admitting tractors from the United States free, it was passed as a war measure. We were promised it would be for one year only and we agreed as a war measure to the Order-in-Council. We visited Ottawa a number of times during last fall to know where we were at but could get no satisfaction, we were stood off from time to time, given no opportunity to purchase materials and in the meantime there were thousands of tractors brought in from the United States prior to February 7th when the Order-in-Council was passed, and last February 7th when it was continued.

"Prior to the original Order-in-Council we, as well as a number of other manufacturers, had a quantity of raw material ready to build gas tractors; in fact, we were building them and a number of other manufacturers as well. The raw material in our plant lies there as it came. We are purchasing tractors in the United States. We are using our organization through the west, through Saskatchewan, Manitoba and Alberta for distribution and sale of these tractors. We are using our field service forces, as demanded by the Governments of these provinces, and we are using our repair outfits, as is also demanded by the Governments of these provinces, to store and distribute repairs for United States tractors. We are employing to-day about 175 men, instead of 500 men, simply on account of the tractor legislation. The statement made that 18,000 of the population of Canada could be kept by the industry of tractors I think is absolutely correct, and if anything under the mark.

"I noticed in the paper this morning that Mr. Crerar in his remarks yesterday stated that, if Canadian manufacturers of machinery—he referred to farm machinery—could export some millions of farm implements to European and other countries and compete in the world's markets, why couldn't we manufacture machinery (referring particularly to tractors as I understood, although I may not have read it correctly,)—in Canada and compete in Canada with the foreign market? Mr. Crerar mentioned nothing of the drawbacks of duties on raw material entering into the construction of these tractors; he didn't mention,—probably it didn't occur to him,—that the tractor manufacturer is the final manufacturer and sells to the final consumer, that between him and the original raw material there are hundreds of intermediate industries that are affected and one half of them are concerned in the development of the natural resources of Canada. These natural resources have to be developed under some protection. If drawbacks of duty are allowed for export machinery and for the sale of tractors that come free into Canada, it means that we have to purchase this raw material in the United States and pay duty in order to get the drawback.

It cuts off every intermediate manufacturer almost back to the original raw material,—the ore and the tree.

"These matters I think should be very carefully considered by this Association. I don't wish to speak of it selfishly, but the tractor interests probably and the farm machinery interests are the least to be considered, but it is the intermediate manufacturing and industries who manufacture the raw materials that enter into the construction of these machines. I contend drawbacks of any kind are a very vicious policy and it cannot but injure any industry or the development of the natural resources of this country."

Government Ownership of Railways

On the resolution *re* government ownership of railways, Mr. Waddie of Hamilton said,—"I have just returned from Australia where the railways are operated by the Government; I was in New Zealand where the railways are operated by the Government, and I want to say I never saw such rotten service in all my life. I want to put myself on record as saying that, as the railways are handled there by the Government, going to buy a ticket is like going into the custom house to try to make a clearance, it takes about an hour. I had one experience where I had to go down to get a train for a certain place, and the train left at 8.15 in the morning and I was informed perfectly seriously by the clerk when I bought my ticket that I would have to be there at 7.15 or I wouldn't get my accommodation. I think from what I have seen of Government run railroads it is something appalling; don't, for heaven's sake, let us have it."

With the Canadian Trade Mission in Europe*

An Object Lesson for Canadians in War-Wrecked Europe—Canada will be Exactly What the People Make it and Unless they have the Vision to Make this Country What it Should be There will be Trouble for Some Time to Come

By LLOYD HARRIS
Head of the Canadian Trade Mission

MR. PRESIDENT and gentlemen: First of all I want to congratulate the members of the C.M.A. on their choice of the President for the coming year. The President you have selected, I might say from personal experience and actual knowledge, is a real fellow. Tom Howard is one of the real fellows in Canada, notwithstanding the fact we have got a lot of real fellows here; and I might also say that there is a real fellow sitting immediately on my right who has now passed from the chair of the C.M.A. having done such excellent service for you during the past year.

Strong Line of Presidents

You have been peculiarly fortunate in your choice of presidents of this Association. Perhaps the only good thing you missed was several years ago when I might have been in line. However, I went into politics instead, and a man to be a conscientious politician, as I felt, couldn't occupy the chairmanship or the presidency of the C.M.A. and sit in the House of Commons in Ottawa at the same time. Nothing of that kind has been known to occur in Canada. In fact, I sometimes think that it is almost impossible for a successful business man to find a seat in our Canadian House of Commons.

I think that this is all wrong. I, of course, am only expressing a personal opinion, but I think that perhaps if we had more of our successful Canadian business men in those seats of wisdom doing something to guide the destinies of this country, we would get over the bumps and over future problems a little easier and a little more intelligently than we are doing at the present time or are likely to do in the future. If there ever was need of business acumen, business intelligence and business direction, it is at the present time in the Government not only of Canada but of every country in the world. The problems that the Governments of the world have before them at the present time are distinctly business problems and unless we can bring our best trained business minds to bear on them,—men who have had the necessary business experience in handling these large problems,—I am very much afraid we are going to have a very hard time of it.

Of course, I always think that it is absolutely necessary in our House to be represented not by one class only, but that we should have every class properly and intelligently represented. The trouble has been in the past,—and this is the only criticism I have of the situation,—that we have had too many lawyers, but that is perhaps our own fault. We are the men who elect our representatives and after all is said and done we are responsible to the country for those who represent us in the House at Ottawa, so that we will have to take this lesson to ourselves individually.

Now, Mr. President, I devoted a great deal of time yesterday to giving a few thoughts on the export trade situation and I know you don't want to hear about business or anything to do with business to-night. I think I would like, if I may use the time at my disposal, which is going to be very short,—I've got my eye on the president's watch,—to give you a few of my personal experiences since I left Canada seven months ago.

When I left Canada in November last and arrived in England the latter part of November, I found a condition of affairs in Great Britain I little realized. I had not realized up to that time the effort and sacrifice that the people of the great old mother country had been making during the war, and I think we in this country have no conception, unless some of us have been over there, as to what the conditions were in that country and what sacrifices and efforts the people in the mother country have been making and going through. The conditions of living were such that coming in from the outside where I had had all I wanted to eat and all the fuel I wanted to keep me warm,—the conditions were such that I found it was almost impossible to successfully stay on this earth. The fuel situation was such that people in all parts of Great Britain had to be rationed on fuel, and the rationing was one third of the normal amount they had used when coal was in full supply two or three years previously. That is, if you had a house and had burned ten tons in a year two or three years previous, last winter you had three and one third tons, and from that had to be deducted the amount of electric light you used or gas or fuel. You could use all in electricity or all in gas or all in coal. The result was it was absolutely impossible to keep warm.

Then the food was such that it was impossible to keep properly nourished. The food was rationed. We thought we were making some sacrifice when we were placed under control as to our food supplies, but we know nothing about the conditions they had to live under in Great Britain at that time. We practically had no fresh meat. Once a week we could get a very small quantity; we had one ounce of butter a week per person, and that condition lasts until to-day. They would give us a small package of sugar, it was so thin in the thin envelope that you could slip it into your coat pocket and not know it was there, and that had to last you a week. You had no fats of any kind, and practically all you could get to eat was a ration of eggs, some fish and fowl in more liberal supplies. Those were the living conditions.

Didn't Praise Themselves

The people were under control of various kinds in respect to almost everything they did. However, I have often said to the British people on various occasions when I have had the pleasure of addressing them that the only criticism I had of them was that, while they were so generous in their praise of what every other nation and every other people were doing,—and they were especially so in connection with the efforts we had put forth in Canada,—they never talked enough about themselves, which is perhaps in my opinion their great fault.

[Mr. Harris here proceeded to detail his personal experiences while visiting Great Britain and the devastated areas in France and Belgium. He concluded as follows]:

It is impossible for anybody who has seen the devastation wrought during the war in the section of country we went

*Speech delivered at the annual banquet of the Canadian Manufacturers' Association. June 12, 1919.

through to describe what you see, but I would like every man in Canada, if it were possible, who was not over with the Overseas Forces, to have seen what we saw and I would like to have it leave the same impression on your minds as it left on ours. I don't think that any of us can possibly realize what this war really meant unless they have gone over those battlefields, visited scenes of those battles and seen the condition that the countries devastated have been left in.

Sad State of Poland

I only saw the Western Front in France. I have talked with Madame Paderewski, wife of President of the Polish Republic. She has described to me conditions existing in Poland at the present time, which are simply unbelievable. The people of that country are barely existing so far as food and clothing are concerned. They are in such a condition that the ravages of disease are spreading, and the whole thing is caused by lack of clothing and proper nourishment. These people in these countries are not restless, they are patient, and they are only waiting for an opportunity to be allowed to go to work. They have nothing against their organized scheme of Government; they are people that have practically been without a country for several generations and in some cases several centuries. They are now coming back into their own and waiting until they will again be a reborn nation, and waiting to be allowed to live in comfort and safety after all the years of oppression.

Roumania is practically in the same condition. Before leaving Roumania the Germans practically stripped her of everything. The consequence is the people have not sufficient food, they have not enough clothing and the privations and sufferings are such that we in Canada cannot possibly conceive of the situation. You have all read the papers as to what the conditions are in Russia.

I have been preaching and talking to the people I have met about Canada and I have said on very many occasions to these people who have lived under oppression for many years that perhaps Canada was the freest country under the sun; that we had a country of more equal opportunities than any in the World; that we had more settled conditions; that we had a land where anybody who came into it would enjoy freedom and liberty, and I come back here and what do I find? I find that there are conditions existing in Canada at the present time and that there are people living in Canada at the present moment, who, if allowed to live in Canada and if they had their own way, would make conditions in this country just the same as they are in Russia.

What About Canada?

I wonder what these people will think when they recall some of the things I have been telling them about Canada? I don't know,—I have been out of this country for the last two years; I have been out of Canada trying to do what I could for Canada and for the people of Canada; I have been glad to be able and to have the privilege of rendering a service of that kind,—I don't know what your conditions are here. I have not been back long enough to know just how things are. But there must be something wrong. I don't know whether the wrong is on the side of one class of people in this country or on the other, but one thing we have got to do is to, more than ever in our lives before, realize the responsibilities of our citizenship.

Canada is just exactly what we people in Canada make it and unless we have the vision to make this country what it can be made and have big views and broad views and take a big broad vision of the whole situation, we are going to be in trouble here for some time. All I want to say is that I have the greatest confidence and belief in our Canadian people in the biggest situation that the world has ever seen. Canada has taken a very worthy part and she did her efforts in a great big broad human way and there is nothing before us in the future that we cannot tackle with every confidence and that we cannot go out and clear up. This world is not going to be the same kind of a world that it has been before the war. We all want to realize that. It cannot be, but it is going to be exactly what we people, what we as individuals, have vision enough to make it.

Now, in my opinion Canada is no place for slackers. There is no more room here for the idle rich than there is for the idle poor. We have all got to be producers and workers, and why shouldn't we be producers and workers, because after all, work, in my opinion, is the panacea for all the ills? Whoever is unhappy or restless or discontented as long as they are busy? I never have been as long as I was busy. If I have ever got into a position where I didn't have anything to do for a short time, I was restless and discontented and getting myself into trouble every time.

Must Become Canadians

There is just one other thought that I have, Mr. President, and that is this, we have had many people come to find refuge and to find new homes in Canada who have come from countries where the living conditions were such that they had a great desire to escape from them. I think a great deal of the trouble and agitation and discontent in this country is from that class of people. I have made some enquiries and I have yet to be told by anyone who has been in close touch with the situation that native-born Canadians have been mixed up in any of these agitations to any great extent. We have a country we cannot hold alone for native-born Canadians, but I think what we ought to do and what we will have to do is to simply give notice to all the rest of the world, and to those in this country to whom we have given shelter and are willing to give them the opportunity of making for themselves a home and a living, that unless they will come into this country and accept the conditions and agree to live under the orderly conditions we as Canadians must compel them to live under, and unless they will become Canadians and be Canadians first, last and all the time, I think we just want to tell our Government to tell the people who are coming in here that the best thing they can do is to get out.

Preserve Canada's Reputation

Mr. President, I am not going to take up any more of your time. I have spoken longer than I intended. I just want to add this thought. I told you yesterday that Canada has the greatest reputation of any country in the world at the present time throughout Europe. That reputation has been made by our boys who have gone out and represented us on the battlefields of Europe. They have made such a reputation that the people of Europe and the people practically of other parts of the world are anxious to trade with us; they are willing to throw their trade towards us and into our hands. We have got the greatest trade mark that any nation ever had in that one word "Canada." You are custodians now of that trade mark, you members of the C.M.A., and you manufacturers, and if we go on and develop, which I think we will be able to do, an enormous trade in manufactured products in Canada, which I hope will be sent out to all parts of the world, whatever you do, do not ever allow anything to go out of this country with that trade mark "Canada" on it unless it is up to the standard and reputation and quality of the trade mark that has been created for us by our soldiers that have gone over to fight our battles.

The Causes of Labor Unrest in Canada*

The Natural Nervous Strain through which the Whole World has Passed—The Economic Pressure on All Classes of People—The Work of the Irresponsible Agitator—How these Causes are Working and how they May be Counteracted

By GEORGE B. NICHOLSON, M.P.
Chairman of High Cost of Living Committee

MR. President and gentlemen, when your Secretary, Mr. Murray, asked me in Ottawa about a week ago if I would come to Toronto and speak to the Canadian Manufacturers Association for a few minutes, I did not give him an immediate answer, for the reason I was not sure that I could say anything that might be of benefit to you, and I did not feel disposed to waste either your time or my own unless I thought I could say something that might be of some benefit and assistance, but after giving the matter a few hours' thought, I came to the conclusion that perhaps, out of the experience I have gained in one way and another, I might be able to say a word that would be helpful in the present crisis with which Canada is faced; and, as a foundation of what I wish to say in the few minutes at my disposal, I would just point out some of the responsibilities we must meet if we are going to do what the previous speaker, Mr. Lloyd Harris, has so well said—if we are going to keep inviolate the name "Canada" that has been made for us by our boys who have gone and died in France and Flanders.

How Our Debt Has Grown

First of all, let me say this—as you all know, I have no doubt, but it will bear repeating—in a financial way, our obligations directly out of the war are to-day equal to what our total financial obligations were in pre-war days; the interest on our war debt and the sum of money necessary to meet the pensions we will have to pay during this generation at least, are equal, if not greater than our total revenue of the expenditure of the Dominion of Canada for ordinary purposes in pre-war days, to say nothing of the necessary development if we are going to meet these obligations. We are faced with just this question, how are we going to do this? What are we going to do in order to enable us to meet these added obligations? We cannot do it by sitting down and trading jack-knives with each other; we must find some more practical way. The only way I know of and can suggest or think of, is that we will do just the same as the individual would do—because, after all, a country is a magnified individual—just the same as the individual would do that found himself in the same way, take stock of his resources and make up his mind how he could best develop those resources in order that he might meet his added obligations. That is the clear way to say it.

If we are going to go forward and develop these resources and meet these obligations and take the place in the world Canada should be destined to take, we cannot do it as a divided people; we must find some way to become united. At the present time we are faced with utter chaos, as has been intimated to you by the previous speaker, at a time when every single man of us should be bending every last energy we possess in an effort to get back into normal condition, in an effort to undertake the tremendous duties with which we and the rest of the world are faced.

The unrest that Mr. Harris has spoken of is of such a nature that no man can seriously contemplate going forward and doing anything with a reasonable expectation that he can accomplish it, because he does not know where he is going to land. I stated in a few remarks I made in Ottawa one night this week that there seems to have grown up amongst our people a feeling of resistance against anything in the nature of constituted authority or restraint; every one wants to go in his own direction; there is absolutely nothing in the way of unity, and that is manifested in a greater degree than any other way I know of in the minds of the working men.

Three Primary Causes

It is with regard to that phase of the question I am going to speak particularly, and may I, as a personal word, say that I feel my experience has been such that I can speak of the working man. I had the privilege of being an active member of a labor organization for fifteen years. I am still an out-of-service member of the same labor organization and closely in touch with their aspirations and what they are endeavoring to do; and I will say this to you, as a group of men employing working men, that unless we can find a basis upon which the working man and his employer can unite in a single effort to do the things that Canada must do in the development of all her manifold resources, we are going to end in utter and complete chaos.

The unrest is due, I would say, to three primary causes. First, there is the natural nervous strain through which the whole world has passed as the result of four years of war. We cannot get away from the fact we have got to face that situation. We have all been tuned up to a pitch almost to the breaking point for four and one-half years, working men, employers, men in all walks of life.

The Irresponsible Agitator

The next is the economic pressure on all classes of people, bearing perhaps heavier on the working man than on any other class. Then the third is the irresponsible agitator; and going over these three I will go backwards and I will take the irresponsible agitator first. I agree absolutely with what Mr. Harris said. The time has come, indeed it came long ago, when we Canadians as Canadians should have laid it down as an absolute principle that the man coming into our land, who did not want to become a Canadian, should not be permitted to stay here; the man who is not willing to subscribe to our institutions should not be permitted to stay here; the man who wants to pull down the structure of our society should not be permitted to stay here; and we have many of them; and we are responsible to a very considerable degree for the fact that they have had the influence they have had; we are responsible to-day for the fact that the loose-knit agitator has been the man who has occupied the centre of the stage while we have been willing to sit back with our arms folded and let him have his say. That again, possibly, is one of the weaknesses of the race from which we sprung. We are always ready to let the other fellow have his own way; it doesn't matter where it leads, and it has gone to a point, gentlemen, to-day, that

*Speech delivered at the annual banquet of the Canadian Manufacturers' Association, June 12, 1919.

is going to lead to disaster unless it is stopped. We have many evidences of it and I will deal briefly in a moment with the most manifest evidence we have yet had.

The next is the economic pressure due to the abnormal cost of living, the abnormal cost of everything a man has to use or consume.

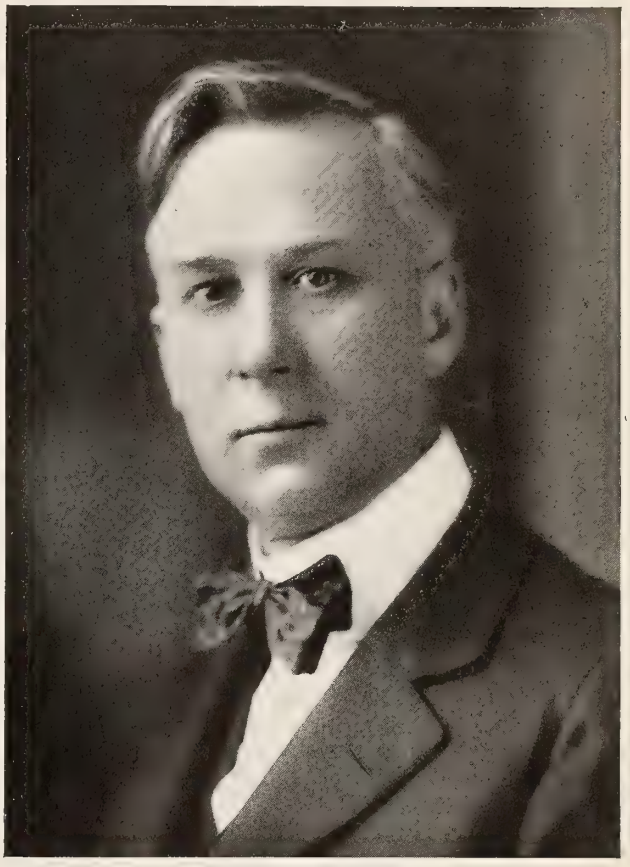
There Must be Freedom

Now, there are all kinds of patent devices suggested for overcoming the high cost of living, and the high cost of all the products people have to consume. Suggestions are made that the Government should do this, that some organization should do that. We want some mechanical method for overcoming these things. I would just in that respect refer you, gentlemen, to the conditions that prevailed in the ancient empire of Rome in the years before the downfall of the empire of Rome, when the people got into such a condition that they were simply not free citizens but wards of a government; and if we are going to develop and maintain a virile Canadian citizenship, we must make up our minds the less control the Government exercises over the normal things of life the better it is going to be for Canada. Let me say this, for example, the thing that is bearing the most heavily on the ordinary man to-day is the food he is eating, and it is suggested in many respects there should be a fixed level struck at which the producers of food would sell their product. In my judgment the very moment you attempted to do that you would dry up the supply entirely. There must be freedom and we must find some other way—devise some other way. What is it? I am going to say this to you in all frankness again, I believe perhaps there is something wrong in an incidental way (because in the final analysis, it is only incidental), with our distribution system. It may be costing too much to get the necessities of life from the producer to the ultimate consumer; and, may I say just a word to the Canadian manufacturers, it may be, and I believe there are instances where it is costing too much to get the things you produce from the producer to the ultimate consumer, and right here the Canadian manufacturers have a direct responsibility themselves. The Canadian manufacturers are bearing the whole brunt, or a vary large part of the brunt of the odium that is cast on the people that are producing things, for the cost the people are paying for them. Whether they are responsible or not, I am not going to express an opinion, but it should be your business to see that the channels through which your goods pass in their course to the ultimate consumer are made as clear and free of obstruction as it is possible to make them. When I say that, I mean the distribution system within our own borders. There is a responsibility in that direction to make the distribution system as economical as it is possible to make it and to cut out artificial obstructions within our own borders if we can.

Must be Patient

Going back again to the third cause, the nerve strain through which we have passed, we can only overcome that by patience one with the other. We must exercise patience; we must give wise counsel if it is possible for us to give it to all classes in the community, in order that we may grow out of it. Take our returned soldiers, is it possible to expect that men who have passed through the hell these men have been in in the past four years, can come back and resume the positions they formerly occupied in a normal state of mind? It is not possible for those of us who remained at home in many cases to maintain that former frame of mind, and it is much less possible for these men; consequently we have got to be patient, exercise patience and do everything we possibly can to get them back into a normal state of productive activity as rapidly as they can be got, and at the came time with as little that will jar on their nervous system as it is possible for us to bring about.

Going on in a discursive manner perhaps, I want to come to the more direct question of the existing unrest amongst the working men and the relationship that does and has existed between the working man and his employer. It is manifest that conditions cannot go on as they are. It is impossible to produce anything in competition with the world and have the class war we have in Canada to-day. There is only one way by which we can compete in any line whatsoever, and that is we are each going to make up our



J. S. McKINNON
S. F. McKinnon & Co., Limited, Toronto
Elected First Vice-President, C.M.A., 1919-1920

mind to give the best that is in us to the things we take in hand to do. The man who is working in the shop, the man who owns the shop, the man who manages the shop must each be imbued with that idea or we are not going to get the best results. How are we going to bring about that condition? We must, as I say, in the first place eliminate the agitator entirely. We must then, if we can, cause the working man to feel he is getting a reasonable and fair return for the labor he gives. At the same time we must so organize our efforts that the man who is responsible for the management and putting his money in will also get a reasonable and fair return, and that there will be a reasonable chance that business is going to go on without interruption. The strikes that we are having, the constant interruptions—make it as I would say without uestion impossible for any development to take place. You can't open up new industries because you don't know where they are going to lead, all on account of this unrest and uncertainty. You do

not know whether your men are going to work ten hours a day this week and eight hours a day next week; you do not know what rate of wages you are going to pay because things are going around in a vicious circle. So that we must endeavor if we can to establish some uniform basis upon which industry can go forward; and in that regard we have got to take into our consideration what is being done in every other country in the world. Canada cannot establish a different standard from other countries and compete with other countries, no question as to that. Our working men have a right to the very best, the highest standard that working men can possibly get, but if they get up on to a pedestal above the working men of the rest of the world, the things they are creating as the result of their work cannot compete with the rest of the world. I may be a visionary in all these things, but I say to you this, that there must be a consistent effort to bring about a reasonable world standard, at least within the confines of that portion of the world with which we compete.

Employer and Employee

Coming down a little further to the actual relationships that exist between the workingman and his employer, I want, if I can, for just a few minutes to give you some of my own ideas with regard to the war that is on, so to speak, between certain elements and sections of what is called organized labor and the employers, and I will refer to the Winnipeg strike as the best illustration I can get and conditions that prevail there. First of all, let me say this as a member of a body of organized labor who has studied the question from every angle and aspect and has secured confidential information as to what has taken place in Winnipeg, the Winnipeg strike is not a strike at all in the accepted sense of the term. It is rebellion against constituted authority, and it is not only rebellion against constituted authority in so far as the state is concerned, it is rebellion against constituted authority within the ranks of organized labor itself. The effort, that Winnipeg was made the centre of, was not to establish the rights of organized labor, but to destroy organized labor as we have understood it in Western Canada and ultimately throughout the whole of Canada. There isn't any question about that. The question of collective bargaining that was interjected into it is simply an excuse and not a reason at all for the conditions that have prevailed in Winnipeg. It is simply as I say, an effort to destroy organized labor, and why? Because those who are responsible for that movement knew and they know now that the only way by which they could accomplish the purpose they had in mind, and that was the ultimate overthrow of constituted government in this country, was to first destroy recognized bodies of organized labor. Take that away from them and they had no other excuse; none whatever; and the thing that has saved the situation in Western Canada to-day, if you will let me say so, gentlemen, is the fact that organized labor itself in the main, has been able to see through the whole thing. They recognize now—large bodies of organized labor—just what these men have had in mind. I said, speaking to a group of men every single one of whom were members of organized labor, two weeks ago to-night, that the men at the head of that movement in Western Canada were not working men, they had never done an honest day's work in their lives, they were grafters, not the working men of this country, not the working men in any other country.

But, gentlemen, having said all that, I want to say to you that there is a place for organized labor, and I want to say also to you, that many of the employers in Canada are to a very large degree responsible for placing the club in the hands of these agitators that they have been able to use, because many employers in Canada have refused to recognize the good that they themselves could get out of organized labor properly constituted, and also the right that the working men had to get together in an organized body just the same as a group of employers has the right. I am saying this to you as a man who has seen the question from both sides, having had 15 years' experience as a leader in a body of organized labor, and 17 years' experience as an employer of a large body of men. Many employers have refused apparently to recognize the right of the working man to do just exactly what the employers have always been doing, a group of men combining together for mutual benefit of each, perfectly consistent with the whole social system with which we are surrounded.

Collective Bargaining

Now, then, what is my judgment with regard to how labor may be organized and how it should be recognized? And in that connection I am going to deal with what I believe is the most vexed question before the Canadian working man and employer, and that is the question of collective bargaining. It is a very catchy phrase, isn't it? How many men are there in the City of Toronto—working men or otherwise—who will define collective bargaining for you? Each will define it in his own way. There are groups of men in this country that do understand and that practise collective bargaining, and let me again say this, that the Winnipeg strike in every phase of it, had for its object destroying every foundation on which collective bargaining must rest if it is going to be successful. Collective bargaining rests on two principles, the first is the right of employees of a given employer to negotiate with that employer for the terms and conditions on which they will work and give that employer their labor. The second is the absolute inviolability of the contract they make with that employer. And when you say that, you immediately make manifest the fact that such a thing as a sympathetic strike is an utter impossibility if the foundation of collective bargaining is to remain. Why do I say that? If I make a contract with you I am going to do certain things on certain conditions, I expect you are going to carry it out if you have the moral honesty to do it, and you have a right to expect I will do the same. That is a contract between two men or groups of men if you will, but if John Jones and William Smith have a disagreement and I say to you because they can't come to terms I am going to abrogate the contract I have made with you, and refuse to recognize it, where is the basis upon which a contract can be made? It falls to the ground at once. You have no control or responsibility for what your neighbor does; I have none for what my neighbor does. Having said that, I do not mean for a moment that different bodies of organized labor may not become affiliated for mutual counsel just as this Canadian Manufacturers Association is drawn together here to-night for mutual counsel, just as the United Farmers of Ontario may be drawn together for mutual counsel, but being drawn together for united counsel and undertaking to say, because one of our number is going to refuse to recognize his moral obligations is an excuse for all the rest of us doing the same, cuts the foundation away from society at once, doesn't it? The weakness is this, gentlemen, in what is termed the ordinary organized crafts; and right here let me say to you again, the Canadian manufacturers may be able to do something to strengthen the position of organized

labor as it should be, and, in doing that, to strengthen their own position.

The only bodies in Canada that I know of that have been organized along consistent business lines are the railway organizations, and instead of being organized in a polyglot mass of different crafts within a given area, they are organized in one national craft, from one end of the country to the other. If you had a national bricklayers' union, a national carpenters' union, a national painters' union, a sheet metal workers' union and all the rest national, the particular craft from one end of this country to the other organized in one body, you would have a much stronger and stable body with which to deal. That body would have an opportunity for better leadership than it otherwise would have. They might, there is no objection that I can see to them being affiliated one with another, as the railway organizations, but there would be no obligation on the one part to enter into a sympathetic strike; they can give them their moral support and advice and counsel. When a manufacturer was dealing with the metal trades or sheet metal workers he would know he was dealing with men who knew the business possibly just as well as he did; he would know he was dealing with men that knew what was taking place in every other town and city in Canada, and in that degree the whole system would be stabilized, and when the sheet metal workers or the bricklayers went to make a contract with an employer they would not go to make a contract for bricklayers and painters or plasterers or anything else.

In Community Groups

The ordinary crafts are not organized in this way to-day as I understand it; I may be wrong; they are organized in community groups; the crafts in the city of Toronto are organized separately from the crafts in Montreal. It is true they are all affiliated with the Dominion Trades and Labor Council, but they have not got that continuity of organization that the railway organizations have. In that connection let me say this, because it has been stated by men who should know better, that the railway organizations do not make contracts as divorced organizations and they are pledged the one to support the other. Absolutely unfounded, any statement of that description. The locomotive engineers make their own contract with their employers; the locomotive firemen make theirs. It is true sometimes that these two bodies, on account of the way their works interlock the one with the other, do negotiate a joint contract, but they maintain absolutely the right that each separate organization signs its own contract and each separate organization takes to itself the right to open that contract according to the terms under which it is made whether the other group wishes to do so or not; and the railway company with whom they make that agreement has the same right. How does it work out? You have never heard of the employees of the Grand Trunk Railway going out on sympathetic strike because the Canadian Pacific didn't deal justly with its employees, or *vice versa*. Notwithstanding that fact, and in spite of the fact that in 35 years there have only been three small little eruptions in the form of a strike in the railway world in Canada, the position of every single one of these men has been improved more than 100 per cent., by mutual negotiation. Possibly they have gone too far, but whether they have or not, they have done that without a single break in the service. If that can be accomplished in connection with the transportation companies, why can't it be accomplished in connection with all the rest of the industries upon which this country is dependent?

What the Association Can Do

Now, I do not know whether this body can do anything or not, but I believe that possibly it can by lending its counsel to its own employees and making it known to its employees that it is willing to assist, if necessary, in the development of strong, stable, sound organizations with which it can deal; not taking the attitude that you are going to fight with them; not taking the attitude that the employee and employer are at the opposite poles, but because you do feel the interest of one is the interest of the other, because without one the other cannot live. We cannot continue to manufacture without having men to carry on the work; the employees cannot get service unless the men are willing to organize these things and put their capital into these things, and join with them in a mutual effort for the benefit of themselves and society as a whole. If the Canadian manufacturers can in any way assist in bringing about a more stable craft organization that will be working along safe and sane lines, they will be doing a good thing for themselves and every man in Canada, without any question. Every man, woman and child is dependent on stable conditions. Without them we are not going to be able to maintain what we had before and we are not going to meet our responsibilities.

I will repeat to you, gentlemen, what I repeated two weeks ago to-night. It would seem to me as though there is almost a determined, consistent effort to destroy what Mr. Harris has referred to as the freest country under the sun, to destroy democracy itself. The very home and cradle of pure democracy is here in Canada, and it is going to be destroyed if conditions go on as they are.

Our Responsibilities

Without any question we are going to have an upheaval such as has occurred in Russia, because that is what is aimed at. 427,000 of our boys went over to France and Flanders. What for? To maintain the freedom of the world and to protect the homes of Canada. 150,000 of these boys have come back more or less maimed and broken in body and mind. Some of them, 65,000 of them, will never come back. Have we any responsibility to these men? Have Canadians of every class any responsibility to these men? Are we going to let it be said that the country for which they died is going to develop into a state of revolution and destroy the institutions they died to save? That is what we are faced with, and, gentlemen, let me say here to-night with all the earnestness that I can, that unless the men who see these things as they actually are are willing to get out and make sacrifices and tell the people of this country what the conditions are and whither we are drifting, I would hesitate to even venture to say what might be in front of us within the next six months. If the men who are at the head of that Winnipeg strike, for instance—not the Winnipeg strike, but the Winnipeg revolution—get their way; if they are compromised with to-night in such a manner that the same thing will only break out somewhere else in worse form, then I say society in Canada is very much in danger, and I know whereof I speak.

I thank you very much, gentlemen, for the privilege of being here and addressing you. (Applause).

Industrial Relations—the Tariff Question*

The Desirability of Realizing Industrial Democracy—Can be Measurably Accomplished Without Resorting to State Socialism—Radical Changes in System of Federal Taxation Should be Viewed with Less Hostility

By W. C. GOOD

MR. PRESIDENT and Gentlemen of the Canadian Manufacturers Association,—Many years ago, an unknown Hebrew poet put the following words into the mouth of Job, then longing for death to end his afflictions,—

> "There the wicked cease from troubling;
> And the weary are at rest.
> There the prisoners are at ease together;
> They hear not the voice of the taskmaster.
> The small and the great are there,
> And the servant is free from his master."

And though the stately gloom of Sheol has been dissipated by Him who declared that a man's life consisteth not in the abundance of the things that he possesseth, and though we are to-day the heirs of all the ages, it seems difficult for us to weigh justly those differences of language, custom, wealth and worldly circumstance which often blind us to a common humanity. It needs the vision of the poet, or, a touch of the Divine insight, to penetrate the disguises and see the essential and the permanent. Very often it needs the angel of death to place things in their proper perspective, and to make us realize that the bodies of millionaire and pauper must finally rest under six feet of earth, and that their spirits will ultimately appear before the Creator, to be judged in accordance with the deeds done in the flesh.

I take it, therefore, gentlemen, that it is a duty we owe to ourselves, to try to forget that we are farmers, or manufacturers, or artisans, or teachers or preachers; and to try to look at some of our problems from the standpoint of our common humanity. And this duty is further enjoined upon us by reason of our common citizenship. Have we not all spilled blood and treasure in a war for liberty, humanity and democracy? Have not rich and poor stood shoulder to shoulder in the fight? And are we not all bound to exalt in our daily life as citizens the splendid ideals for which so many of our best and bravest have gladly given even life itself. I would, therefore, from this point of view, submit for your thoughtful consideration this evening certain questions which make an impressive demand upon our citizenship.

The Farmer's Viewpoint

The first question upon which I wish to speak is that of Industrial Relations,—the conflict between so-called "Capital" and "Labor." It may appear at first sight that a farmer has no right to make a pronouncement upon this matter. But I think you will see, on second thought, that farmers, being for the most part capitalists and laborers, are singularly fitted to appreciate both sides of the present conflict, and, insofar as they can, to act as mediators. I trust, therefore, that you will bear with me if I venture to discuss this matter with you.

In all production there are three factors recognisable: Land, Labor and Capital. By Land, I mean all natural resources whether of matter or energy, and by Labor, I mean all human effort, of body or mind, which is directed by the human will to the satisfaction of desire. By Capital, I mean all those products of labor applied to land which are not produced for direct consumption but as an aid to further production. Tools, buildings, machinery and soforth are *capital*, and are sometimes called by economists, *producer's goods* in contradistinction to *consumer's goods*. Money is capital only in a secondary and subordinate sense.

Now of these three factors,—Land, Labor and Capital, only two are primary factors, viz.—Land and Labor,—Land the passive factor and Labor the active factor. Capital is obviously a product of labor applied to land, and is therefore secondary. Obviously, too, the best results are obtainable only by harmonious co-operation between the various factors; and nowhere, I think, can this be seen better than in the case of the typical Canadian farmer. Access to the land is the first essential, conferring the opportunity to labor, and constituting an inalienable right. The farmer then straightway endeavors to become a capitalist, and labors long and hard in order to save. Savings are invested in improved buildings, machinery, fences, drains, etc., all of which greatly augment the efficiency of his labor. There is, thus, in his case, the primary, essential and perennial motive for saving, for thrift, for industry and for efficiency. And there is no friction in his case between capitalist and laborer, none even conceivable in his dual capacity.

Capitalistic System Disintegrating

Now any student of industrial history knows that a tremendous transformation was brought about during the 19th century, mainly through the application of Power and Science. Nearly every industry but that of agriculture suffered this transformation. Capital gradually fell into the hands of one class and there became separated a vast number of "wage earners," who had access neither to Land nor Capital. The capitalistic system arose in practically every industry which permitted of centralization and it is well to remember that this system is essentially quite a recent development. In fact, so far as world history goes, it is but of yesterday, and I desire to express my solemn conviction that this system is now in a state of rapid disintegration. It was always fundamentally unstable, and could not be expected to last. Like political autocracy or aristocracy, industrial autocracy cannot permanently exist. It contains within itself the seeds of decay and extinction. The democratic system is the only one that is vital, and if I have read history aright, I am as certain that industrial democracy will have to come, as I am of my own existence. How and when are, of course, largely matters of conjecture; but it seems to me that it would be the part of wisdom and patriotism for you gentlemen, representing in Canada largely the class currently known as capitalistic, to face the situation courageously and unselfishly and try to map out a course of action that will avoid great distress and disaster. Change is coming, and coming rapidly. Whether it be peaceable, constitutional, revolution or bloody revolution, will largely depend upon the strength and obstinacy of the forces of reaction; for you all know what will happen if capitalists sit on the safety valve.

I say, then, that Industrial Democracy is coming; must come. Is it not time that we began to think about the

*Speech delivered at the annual banquet of the Canadian Manufacturers' Association, June 12, 1919.

matter: what it involves and how it is going to be applied? What is implied in Democracy? A well known definition runs thus—"Government of the people, by the people and for the people." More concisely the French put it—"Liberty, Equality, Fraternity."

Liberty we all concede, theoretically if not practically. But we are not as ready to concede equality. The famous statement that "All men are created free and equal" is, by many, definitely and positively denied. May I suggest that this denial is based upon a total misunderstanding of the word equality. Equality does not mean similarity. There are all kinds of differences between men, but he would be a bold man to affirm that such differences involved corresponding inequalities. Life is life, because it is life, and in a sense all life is equal. Read, again, if you will, the anti-slavery literature of the last century, and the history of that terrible conflict which marked its political culmination. And what can we say of an industrial system in which, according to the late Chauncey Depew, there were seven men in the United States who could stop every train and every railroad and shut down every factory, because they controlled the capital? Such a system is certainly not democratic, and you know as well as I do that is cannot be tolerated. Is it not strange that concurrently with the growth of political democracy we have the growth of industrial autocracy? I venture to state further that our modern industrial system has dehumanized personal relationships, that industrial processes to-day largely destroy the joy of workmanship, and that the wage-earner has little inducement to take any interest in his employer's business. Speaking as one who is both laborer, and capitalist, I am convinced that the present factory system, capitalistic system or whatever you choose to call it, is thoroughly unsound, and that we shall not have any industrial peace until the whole business is completely renovated.

State Socialism Unnecessary

Just lately the Dominion Government has oppointed a Commission on Industrial Relations. In 1912, the United States Congress appointed a similar Commission which conducted a most exhaustive investigation during a period of some two years, and gave, as summarising the causes of industrial unrest, the following four main sources:—

1. Unjust distribution of wealth and income.
2. Unemployment and denial of an opportunity to earn a living.
3. Denial of justice in the creation, in the adjudication, and in the administration of the law.
4. Denial of the right and opportunity to form effective organizations.

Our own Commission will report shortly, and it will be interesting to see what their verdict is. But, be that as it may, it is surely time for us all, and especially for you men, to get some vision of the future and to interpret and apply the principle of democracy to modern industry, and especially to those industries where "Labor" and "Capital" so-called, are in conflict with one another. And I can see this advantage in our industrial disturbances that they may reveal the weaknesses of our present system before it is too late to remedy them.

I commend, then, to your most sympathetic consideration, the proposition of realizing industrial democracy: *Industry of the people, by the people and for the people.* I think this can be measurably accomplished without embarking very extensively upon a program of State Socialism for which, as an immediate policy, I have very little sympathy.

And now, with your permission, I venture to say something upon that bone of contention between farmers and manufacturers,—the tariff.

First, however, let me say that there is no reason why there should be any antagonism,—that is in the nature of the industries. In any natural evolution of industry, you find primary, secondary, tertiary, and so forth; represented, as it were, by a pyramid of which the base is the primary. Agriculture is the greatest of our primary industries; manufacturing, so-called, is perhaps, the greatest of our secondary industries. An enlargement of the base will involve a corresponding enlargement of the superstructure. It ought, therefore, to be the concern of all, and particularly of the secondary industries, to see to it that the normal expansion of the primary industries continues. Any undermining of the foundations will ultimately result in a collapse of the whole structure. Any fundamental injustice, as between the different industries, will render the whole edifice unstable, and then ruin is imminent.

Let me say in the second place, with reference to the relative earnings of Canadian Manufacturing and Canadian



—B. and C. Press Photo

G. M. MURRAY

Ottawa Representative, Canadian Manufacturers Association

farming that there is much need for light upon the subject. I made some investigations covering the years prior to the war. The Ontario Department of Agriculture has also made investigations concerning the farmers' earnings in several sections of Ontario during the last two years, which are obtainable in bulletin form. And the Dominion Bureau of Statistics has published figures from time to time in connection with the whole question. Nothing as yet is very satisfactory and it is, of course, impossible to go into the evidence to-night. Suffice it to say, however, that according to the best information I can get, the average earnings of Canadian manufacturing are vastly greater than those of Canadian Agriculture. I could cite some glaring cases, which have received press notice of late; but I will here make no comparisons of a personal nature. I desire only, here and now, to draw your attention to the dissatisfaction which such

disparity in earnings must create, and to express the conviction that only harm can come from such conditions.

As for the causes of any existing inequity in the earnings of our primary and secondary industries, the farmers believe that one great cause of the same is our fiscal policy, and they therefore advocate, and will continue to advocate, the reform of this fiscal policy not for any selfish purposes but in order to restore a balance that has been seriously upset. Time will not permit my going into details on this present occasion. I desire, however, to present one or two points of a general character.

Profitable or Unprofitable

First, then, let me say that we cannot properly measure the material well-being of any nation in terms of money. The recent fall in the purchasing power of the dollar should have made that truth abundantly clear. Material wealth must be measured in terms of commodities and services, and therefore the average real wages in any nation will depend upon the productivity of that nation—upon the amounts of various commodities and services which are available for distribution. Any policy, then, which diverts labor from an enterprise in which it is efficient to one in which it is less efficient reduces the national wealth and thus reduces the average real wage obtainable. For example, to take an extreme case, the diversion of labor from wheat growing or beef raising in Canada to orange culture could have only one effect—that of tremendously reducing our national productivity. And anything which so diverts labor from relatively profitable to relatively unprofitable enterprises is nationally impoverishing. Scarcity may be good enough for certain individuals, but the philosophy of scarcity will never be valid from the standpoint of the social welfare, any more than it would be good policy for a nation to destroy half its crop in order to secure better prices for the rest of it.

Now, according to the farmers' view of the situation, a protective tariff has these definite and inevitable results: (1) it diverts labor from industries which are self-supporting to those which are not; and (2) it creates an artificial scarcity by restricting exchange. It is indeed from our point of view based upon the false assumption that trade is competition instead of co-operation. The exchange of commodities and services following the division of labor and industrial specialization, is, according to all economists, one of the greatest means whereby workers co-operate for mutual advantage, and it is entirely erroneous to conceive of trade and commerce as a form of competition. Anything that hampers exchange hurts both parties, the seller and the buyer. Let me take a homely example from my own business. Suppose we have a good crop of potatoes in Ontario and they have a potato failure in New York State. Anything like an import duty into New York, anything that makes trade difficult, will have the effect of preventing me from selling my potatoes and preventing a prospective customer from buying them. This has happened more than once in the spring; my potatoes have been wasted, whereas families elsewhere have been deprived of a cheap and wholesome foodstuff. The effect of a tariff in such a case is to bring loss to both parties; just the same as if transportation were impossible. We farmers believe that plenty in one place should go to relieve scarcity in another; that trade should be as free as possible; that the improvement of all means of transportation is a blessing, and we hold, contrariwise, that all impediments to exchange are harmful. Of course, we admit that from the point of view of the selfish producer such impediments may be profitable. For example, the lucky possessor of potatoes in New York State, in the circumstances referred to, would find it to his self interest, to be protected against my competition from Ontario. But in such case, and in all such cases, the individual gains much less than the community loses. Our view is, therefore, that the operation of protective tariffs always brings more loss than gain to the communities concerned. Consider, gentlemen, how even your own business would be affected if the protective principle should be applied between East and West. Let us build up diversified industry East and West, in each Province, in each County, in each Township, in each City, on each farm. Follow the principle of protection to its logical conclusion and civilization disappears. Don't be worried about diversification: there will be plenty of it under the freest of trade. Variety of natural resources, of climate, of taste, together with proximity to markets will ensure quite enough diversification. The view that Free Trade for Canada will result in reducing this magnificent country to a nomadic pastoral condition is a fantastic dream of a disordered imagination. My own conviction is that if Canada had not adopted the protective system in 1878, our population at present would have been much greater than it is, and our manufactures in a much more flourishing condition. Unprovable, you say? Quite so, but so is the converse unprovable, and all arguments from history and economy are on our side. Is it not a fact worth noting that Political Economists are practically unanimous in opposition to protective tariffs? I do not ask you to bow to their authority, but it is at least presumable that they should know something of that to which they have given years of study, and I say again that the arguments in favor of Free Trade are unchallenged and unchallengeable.

Another fact seems to me of pressing importance from a national standpoint. Canada has now a tremendous foreign debt. Including everything both public and private, I should not be surprised if it was near five billion dollars. The Dominion Statistician, Mr. Coats, places it between four and five billions. If Canada is not to repudiate this debt and suffer all the humiliating and demoralising consequences of repudiation, we must pay both principal and interest, and the interest charges alone are staggering. How is this to be done? It must be paid in commodities or services. No subterfuge is possible. A domestic loan will simply postpone the evil day, will merely transfer money from one pocket to another. We must not allow ourselves to be fooled by any such suggestion. There is only one way of paying our foreign debt and that is by production. We must export to pay it.

What of Export Trade

Now I put this question to you manufacturers: What amount of export trade can you count on permanently? The munition business is done; we hope, for good. Before the war Canadian manufacturers were exporting not more than about 50 millions a year. Can they do more during the next ten years? There may be some business done in this line owing to the temporary dislocation of industrial life in Europe; but how long will you be able to export manufactured goods to Europe, and to what extent? Moreover, how good is their credit when credit must be taken? Further if Canadian manufacturers cannot compete with foreign manufacturers in the Canadian market how are they going to compete with them in their own home markets? Will you carry coals to Newcastle?

The Canadian farmer will be delighted if the Canadian manufacturer will help pay off our foreign debt; but he does not see how much can be expected in this direction unless, indeed, the Canadian manufacturer were to sell abroad at a loss, and recoup himself by charging exorbitant prices at home, as did the sugar manufacturers of Germany 20 years ago. Such a policy would scarcely conduce to domestic peace and harmony. From our point of view the only solution is to cut down the cost of production all round, both of farm produce and manufactured articles; and this we believe could be assisted very much by a radical change in our system of Federal taxation. Your employees are now complaining

bitterly of the high cost of living. So far as food products are concerned the outlook is worse than ever. Labor will not come to the land, and if you will not help the farmer to reduce his other costs of production you will be asked to pay higher and higher wages, which will only further aggravate the situation. And again, industrial warfare makes the situation still worse, by reducing efficiency and productivity and thus enhancing the cost of living still more.

It seems to me, gentlemen, that there are only two effective remedies in connection with the two great questions I have discussed with you to-night. You must be prepared to work out some system of co-operation in your several industries; you must try to realize industrial democracy, frankly, honestly, and unselfishly, and you must come to view with less hostility a radical change in our whole system of Federal Taxation. In these matters I speak not as a farmer, but as a citizen and I think I know whereof I speak. Farmers have ideals on which they will not compromise, but on questions of ways and means you will find them reasonable. A get-together policy is obligatory.

Now, gentlemen, let me close with a word of warning from history.

For thirty years Wm. Lloyd Garrison and a handful of enthusiasts appealed to the latent moral force of the people of the United States against human slavery. They were for years hounded, reviled and maltreated. But they persisted, and in time the movement they began gathered strength. In time it got into politics as such things must do. In time a great, and bloody, and most tragic war was waged to settle the issue. In the midst of this conflict President Lincoln spoke as follows in his second inaugural address;

The Wisdom of Lincoln

"Neither party expected for the war the magnitude or the duration which it has already attained. Neither anticipated that the cause of the conflict might cease when or even before, the conflict itself should cease. Each looked for an easier triumph and a result less fundamental and astounding. Both read the same Bible and pray to the same God. and each invokes His aid against the other. It may seem strange that any man should dare to ask a just God's assistance in wringing their bread from the sweat of other men's faces, but let us judge not that we be not judged. The prayer of both could not be answered. That of neither has been answered fully. The Almighty has His own purposes, "Woe unto the world because of offenses, for it must needs be that offenses come; but woe to that man by whom the offense cometh."

"If we shall suppose that American slavery is one of those offenses which in the providence of God must needs come, but which having continued through His appointed time He now wills to remove and that he now gives to both North and South this terrible war as the woe due to those by whom the offense came, shall we discern there any departure from those divine attributes which the believers in a living God always ascribe to Him? Fondly do we hope, fervently do we pray, that this mighty scourge of war may speedily pass away. Yet if God wills that it continue until all the wealth piled by the bondsman's two hundred and fifty years of unrequited toil shall be sunk, and until every drop of blood drawn with the lash shall be paid by another drawn with the sword, as was said three thousand years ago, so still it must be said that the judgments of the Lord are true and righteous altogether."

The application of these words to our present situation is not difficult to make, and let me hope that we may make it in the spirit of Lincoln; and " with malice toward none, with charity for all, with firmness in the right as God gives us to see the right," let us do all we can to achieve a just and permanent peace between hostile industrial classes.

Woollen Manufacturers Meet

Annual Meeting Canadian Woollen Manufacturers Association Held in Toronto Last Month

The annual meeting of the Canadian Woollen Manufacturers Association was held in the King Edward Hotel on Friday, 20th of June, 1919. Mr. Richard Thompson of the Hawthorn Mills, Carleton Place, presided.

Means by which the products of the woollen manufacturers can be standardized with a view to bringing prices to a minimum, to meet successfully competition in the efforts to be made to build up export business were fully discussed. There were present as guests: Dr. F. W. Merchant, Superintendent of Technical Training for Ontario; Dr. A. C. McKay, Toronto Technical School; J. M. McIntosh and H. Macdonald, of the C.M.A.



The "G. M."

Mr. Walsh falls a prey to the camera man just as he is about to embark on the expedition around Toronto Harbor

Dr. Merchant outlined the programme of Technical Eduction which the Government is undertaking, and what it is willing to do in connection with the textile industry. He asked that suggestions as to the best lines to be followed, be submitted to the department by the manufacturers. In accordance with this request, a committee was appointed to draft an outline of textile education.

A representative of Cooley & Marvin, Boston, manufacturers of special textile accounting systems, gave a short talk on the best methods of accounting for this particular industry.

Officers were elected—Mr. Richard Thompson being re-elected chairman, with Mr. Frederick H. Yapp, of Hamilton, secretary-treasurer.

The Industrial Development of the West*

National Unity to be Promoted by the Establishment of Industries in Western Canada—Both Parts of the Dominion will then have Something in Common—Plans to Develop the Industrial Resources of Alberta

By M. A. BROWN
Mayor of Medicine Hat
President of the Alberta Industrial Mission

MR. PRESIDENT and Gentlemen,—I appreciate very much the privilege and the honor which you have conferred upon my Association for this opportunity of saying a few words to the Canadian manufacturers at this your annual dinner. You have listened, I am sure, with very great pleasure and very keen interest, to the speakers of the evening, and I have listened with more than very great pleasure to the last speaker, and to the manner in which he presented his address and to the spirit which he has shown here to-night. In this hour of our national history, when the future is clouded with uncertainty and grave problems await solution, I shall not attempt to speak to-night in the usual after-dinner vein, but shall mingle my voice for a few moments in gravity with those who in Canada speak and who say at this hour of our national history that we must uphold in this country constitutional government. The right to govern is not the right of the anarchist or the soviet, but it is a sacred right given to the people in government by the will and wish of the people of Canada. We respect to-night, and more, Mr. Chairman, we honor and we sympathize with the worker and toiler and with the union that through constitutional and recognized methods seeks to improve the conditions of its members and seeks to find a better pay; but we challenge the right of any, be they of Anglo-Saxon birth or foreign extraction, to defy the laws of this country that have been enacted by the wish and by the will of the people of this country. And more than that, Mr. Chairman, let us say to-night, representing, as I am sure we do, the vast majority of the intelligent people of this country, let the members of this Association speak with no uncertain sound this evening to those who sit in constituted authority in this country, whether they be in the council chambers of our cities or within the walls of the provincial legislatures, or whether they sit to the right or to the left of the Speaker on Parliament Hill, let us say to them that those that will defy our law, that those who will disgrace our flag, that those in Winnipeg who will maltreat and who will attempt the life of a V.C. hero in the performance of his duty, that these must be brought to justice, and if aliens they be, they must be banished forever from the shores of this country.

Stable Fiscal Policy Needed

Now I come to speak to you to-night for a few moments regarding an industrial mission which has been started in Western Canada and in which I trust we will have the co-operation and support of the manufacturers not only here but throughout the whole of Canada.

During my short experience of some twelve years in the West, I have visited this Queen City of Toronto and many of the important centres of the East upon many occasions, but, Mr. Chairman, I never return to the West from the East without a stronger conviction that there is but one sane policy, but one secure foundation on which to build the future of this country, and that policy is a stable fiscal policy, and that foundation is one so well and broadly laid that the people of the West can unite with the people of the East in building upon it, and I take it they will in common serve the interests of every part of this Dominion.

Must be National Development

During the past fifty years the people of Canada have been divided upon many issues that have vitally affected the interests of the federated states of Canada, but I venture the assertion to-night that not within the past quarter of a century have the people of this country faced a period so filled with peril and with problems so difficult of solution, with a country divided against itself, with financial responsibilities so great and with a people less prepared to meet a most difficult situation. It is idle for the people of the East or the people of the West to say that in the past we have weathered the storms and that the future will care for itself. Mr. President, the problems that face us to-day will only be rightly solved when the people of the West unite with the people of the East in laying down a programme for the intelligent and scientific development of the great resources of this country, and thereby secure for ourselves economic independence. During four years of war we were fighting for principles, the political freedom of free states and the continuity of the political freedom of the British Empire and of this our country, and did we not well learn during that period of war that the political independence of any country was based to a large degree upon its economic independence? Did not you manufacturers of Eastern Canada learn by costly experience, because of the difficulties which you experienced in finding raw products, that after all Canada owes her economic independence to the United States, importing as we do such a very large percentage of our basic products? We import from across the line more than 60 per cent. of our coal, more than 98 per cent. of our oil, and we import from other countries more than 96 per cent. of our iron and steel, and more than 55 per cent. of them from the United States.

The problem that faced Canada four and one-half years ago was to secure for ourselves the political independence of the future, or the political independence which we have. The problem that faces Canada to-day is to secure for the future our economic independence, upon which true political independence is based.

Now, how can we secure economic independence? Mr. Chairman, I submit that it cannot be secured with a country divided against itself—East and West—nor can it be secured with an unstable fiscal policy, nor can it be secured with a country unbalanced as it is—manufacturer and protectionist predominant in the East and free trader and farmer predominant in the West—nor can it be secured so long as the Canadian banks fail to realize that industrial expansion west of the Great Lakes is just as important to the future of this country as industrial expansion in Eastern Canada; nor can it be secured so long as our

*Speech delivered at the annual banquet, Canadian Manufacturers' Association, June 12, 1919.

railway corporations, because of undue influence from eastern manufacturers and manufacturing organizations, fail to give fair, reasonable and equitable rates on the raw products moving from one point to another, and unfinished articles moving from one point to another in Western Canada; nor so long as Eastern manufacturers individually and through their organizations fail to realize that the industrial expansion of the West is essential to the unity of this country, and try to better the conditions and branch out and build industries west of the Great Lakes. But we can secure our economic independence by a united Canada East and West, by a stable fiscal policy. A united Canada and a stable fiscal policy can be secured by the intensive development of our great natural resources by scientific methods, by the building up of industry west of the Great Lakes; and by the building of that, west of the Great Lakes, we in the West would have something in common with you in the East, and having that in common, that interest will be expressed in legislation which will serve alike the interests of industry and agriculture as well.

Develop West's Resources

Realizing, then, that national unity is essential to national security and to national development, and realizing further that the time has come when we must develop industry as well as agriculture in Western Canada, we believed that the time was opportune for the development of these great natural resources of Western Canada, these basic products—our great coal areas in Alberta, 12½ per cent. of the world's supply, more than five times the amount contained within the British Isles, equal to the amount contained in China, twice the amount of the coal contained in the German Empire, more than that contained in all Australia, and one-quarter of the amount contained in the United States. We further realized and decided that our iron ore in British Columbia, which has yet been unscratched, should be developed for the interests of this country; and we decided also that those great oil resources in Alberta, which you have heard much about, but which as yet have been undeveloped, and which scientists claim are probably one of the greatest undeveloped fields in the world—we thought the time was opportune that these great oil resources should be developed to bring about the economic independence of this country. We thought that our great copper resources in the West should be developed; we thought our great natural gas deposits in the south—for we have probably the second largest gas field which has yet been discovered in the world—this gas we thought should be put to use for building up industry in this country and developing our economic independence. We thought these great resources should be developed and so, Mr. Chairman, a mission has been started in Alberta to bring about their development, not to create a real estate boom, because we have had all we want of that, in Western Canada, and all the oil booms we want, but what we need in Western Canada to-day is scientific development, research into our by-products and the bringing about of the scientific development of them in an intelligent way. So this mission was begun first in Medicine Hat last fall at the Convention of the Union of Alberta Municipalities, when I was asked to give an address upon the subject of our natural resources. This address was followed by the appointment of a committee. The committee decided to call a provincial-wide conference opened by His Honor Lieutenant-Governor Brett. We called upon the Government by resolution to create an industrial department, which they did, for the purpose of bringing about research, spending money to find out what products we had and then submit an intelligent report on such resources to capital and to the industries of the east and south. This Department will try to intelligently determine what we can manufacture successfully in Alberta and give you facts and figures to prove the statement. The Government has set aside quite a large amount of money for this purpose and created a Department under the Minister of Municipal Affairs.

Formed Industrial Association

We took one step further; we decided to create an industrial association, which has been organized for the purpose of working as between the people and government, and bringing about an educational campaign in the West and with the idea of letting the people know what the Government is doing, and educating the people of the Province to the necessity of industrial development in Alberta as well as agricultural development. Now we are going to have a great industrial congress, with the idea of bringing from the East to the West and from the South to the West, the manufacturers who might consider developing in Alberta. This congress will take place in August, between the 11th and 16th, commencing in Medicine Hat and going to Lethbridge, and from there by special train to Calgary, where two days' session will be held, and from there proceeding to the capital city of Edmonton, where His Honor, Lieutenant-Governor Brett, will take you in hand, and he will entertain you at his house upon that occasion, and he knows how to entertain. From there the congress delegates will tour to Banff, spend the week-end there, and then disperse.

We have invited to this congress 20,000 manufacturers of the United States and Eastern Canada and also business men. We have secured the definite promise by interview of a number of the most prominent men in the country and a number of the most prominent men across the line to be present, for instance, the President of the International Harvester Company, Mr. Harold McCormick; Mr. Henry Ford; Mr. Louis Hill, President of the Great Northern Railway; Capt. Robert Dollar, of the Pacific Coast, President of the Dollar Steamship Line and Vice-President of the National Trade Council of the United States, who will speak on the possibilities of Oriental trade; and a number of other prominent men, are coming from across the line. We hope to have the presence of Mr. Samuel Gompers to represent Labor; from Eastern Canada, Mr. E. W. Beatty, President of the C.P.R.; Mr. Hanna, of the Canadian National Raliways; Mr. Findley, of the Massey-Harris Company; Sir John Willison, and other outstanding Eastern men, will attend the congress as well. We want the Canadian Manufacturers Association to be represented by a special trainload of delegates on that occasion.

Decided to Become Industrial

I wish to say here, Mr. Chairman, in all frankness, that the people of the West have decided definitely in Alberta that no longer will we continue to be only mere producers of raw materials; we have decided that it is manifestly in the interest of the Province and of the people of the country, and of the people of the East as well, that in order to build up the Province and make it a great one, that we must have industries built there as well as agricultural development, because you cannot develop any country successfully unless you have industry and agriculture, because they are both dependable one upon the other. We ask your kind support towards this movement. It means much to the manufacturers of Eastern Canada. It is a national undertaking, and it is of interest to bring together the interests of the East and of the West. We can unite by having a stable fiscal policy; we can unite when we have manufactures west of

the Great Lakes and when we have something in common. But you will never unite in this country so long as you have one end of the country devoted to agriculture and the other devoted to industry. I say, and I have said, to the farmers of our country that if they hope to make that country great, they must find their home markets for their agriculture; and let me say to-night that I am satisfied if we don't find our home markets in this country for the agricultural products of the West, that within ten years the man who is raising wheat and wheat only in Western Canada, will not get any return for his products, or not what he should get. I am as satisfied as I am standing here, that within ten years, on account of the development which is bound to take place in Russia, we will have a competitor there that will challenge the agriculturists of the West; and I believe with all my soul that the one solution for Western Canada is to build up our home markets and develop them by developing industry, not only to take care of the trade west of the Great Lakes, but to take care of foreign trade, which is possible by the Pacific trade routes. When you think for a moment and when you realize that in China on the banks of one river and its tributaries live one-seventh of the world's population, fast awakening to the call of civilization. And they are buying American-made goods to-day. I saw a list of two cargoes of merchandise shipped on the Dollar Steamship Line, in the hands of Captain Dollar, 15,000 tons capacity, sailing from San Francisco, and there were 298 lines of American-made merchandise on those two steamers alone of 15,000 tons total capacity. What are we doing? We have one man in China who until two months ago never set foot on Canadian soil for seven years. Then Americans have men who are scouring for business in China. I say that there is a market there that can be developed. Build your industries west of the Great Lakes and take care of the market and have your surplus market in the Orient and in Siberia; take care of the Australian market and the market of Chile and the other markets you can reach by the Pacific trade routes.

Let the people of the East unite with the people of the West in building up industry west of the Great Lakes. In that way unite the people of this country, in that way bring about a stable fiscal policy; in that way, Mr. Chairman, let us build up a democracy of which every Canadian will be proud.

I thank you for this opportunity of saying these few words to you.

An Invitation from Alberta*

By DR. R. C. BRETT
Lieutenant-Governor of Alberta

MR. PRESIDENT and Gentlemen, I assure you I quite appreciate the honor you have done me in calling on me to say a few words. I know at this late hour that you don't want to hear a speech. However, I am glad to be called upon for this reason alone, that it gives me an opportunity to thank you and the Association for your very kind invitation to be here to-night, an occasion I may say to you that I have enjoyed very much. I always enjoy hearing discussions of men who are empire builders, and that, I think, is something that the members of this Association can very well claim to be.

Crystallized Intelligence

We received from nearly every speaker to-night a certain amount of advice, and I regard this Association—an Association of men who meet together once a year—as one of the most important parliaments that congregate in Canada; and parliaments, you know, are always given advice from the people—sometimes good advice; sometimes advice they take and sometimes advice they don't take. It struck me in listening to the different addresses, and the advice that was given or the hints that were thrown out for this Association, that you have responsibilities to-day greater than probably you ever had before. We have industrial unrest, we have other causes of unrest, and differences between this and other portions of the community, so that your responsibilities, to my mind, are greater to-day than ever before, because you can't shirk. You are, I might say, the crystallized intelligence or business acumen of the Canadian industrial world, and if not to you, to whom or what body can the people of Canada look for some assistance and some advice and some action at this particular time? I have no doubt in the world but that every member of your Association is seized with his responsibility in this respect.

There is just one thing that struck me—and if I were going to give any advice I would only emphasize this—and that is, there never was a time when not only the subjects that would be profitably discussed by this Association, but in other walks of life—in every walk of life, in fact—there never was a time, to my mind, when the importance of getting together was as great as it is at the present time. In the West I don't suppose there is any use denying the fact that the farmers have an idea that all their ills and troubles are entirely attributable to this Manufacturers Association. I don't know, I am not going to say that they all are, and I am not going to say that none of them are, but at any rate I don't believe they are of such a serious character but that they might be adjusted; and I believe a very much different feeling would exist if this Manufacturers Association would go West, not one delegate, not two delegates, not the President and Secretary alone, but a good carload, and tell the people, we are coming out to see you, we think we owe it to you, you have been buying our products, we buy yours, and we want to get together; we want to sit around the table and talk over this thing, because we believe you attribute some of your troubles and some of your ills, and so on, to us.

Opportunity to Meet Farmers

Now is there a more favorable opportunity than what his Worship, Mayor Brown, of Medicine Hat, has given? There is to be this Industrial Convention in August, a splendid time of the year to see the North-West, Alberta and Saskatchewan. There could not be a better occasion for you to go out and talk to the farmers and get them together and say, Now, you are dissatisfied about this and that, let us get together and talk the matter over. I am quite sure that much more friendly relations would result from it. Besides that, as His Worship has just said, it might be to your advantage to go there. Alberta is an ambitious province, and I think justly so. I am not here at this time to laud Alberta and to tell you of its natural resources and what I hope in the future it will develop. You should go

*Delivered at the annual banquet of the Canadian Manufacturers' Association, June 12, 1919.

there for yourselves, because you may depend on this, that the people who live in Alberta, knowing full well of the resources of that Province, are not going to let them lie idle. They would very much prefer to have their fellow Canadians come there and develop them than anybody else, but, if you don't come, they are going to be developed anyway. So I can only add this, that I personally would very much like to welcome a good trainload of you up there in Edmonton, and I know the Government are anxious to show their appreciation of your visit if you come, and they will endeavor, and between us we will hope to give you an entertainment, not the kind of entertainment you give here in this Queen City, but we will do the best we can and that is all you can expect of us. I hope to be able to welcome a great many who are here to-night in Edmonton in August. I thank you, Mr. President, for this opportunity of saying a word.

Western Member Urges Educational Campaign

Mr. Robson Comes from Edmonton to Impress Upon the Association the Urgency of the Need for Establishing Better Relations with Western Agriculturalists

SPEAKING at the morning session on the third day of the Convention, Mr. Robson, of Edmonton, introduced a matter which he deemed of pressing importance at the present time—the establishing of better relations with the farmers of the West. Mr. Robson's remarks were as follows: "As you know, I come from Edmonton. There is a large territory there; probably you don't realize its extent. When I am in Edmonton, I am 300 miles from the United States boundary, and yet there is wheat coming down to Edmonton for shipment from probably 500 or 700 miles beyond. There is wheat grown in the neighborhood of 2,000 miles north of Edmonton, though probably this does not come to the front for shipment. You can start at Calgary and come along the boundary a thousand miles to Winnipeg. Then you can go 50 or 100 miles north and run a line right across the country to the other 2,000 miles and it is virtually an agricultural section. Now it appears to me that there is an organization there, gentlemen—I have watched it grow, and while I notice that industrial and manufacturing development has taken precedence over agricultural development in the last year or two, whether they will be able to retain that lead or not is a question. The point I want to make is this—that, following Winnipeg east, you have probably a thousand miles there of a natural division between what is virtually the manufacturing section of Canada and the agricultural section. I don't mean to say you don't grow grain in Ontario; you do, a great deal; but that section out there is virtually an agricultural section, and I don't believe the individual members of the C.M.A. have centred their attention on that in the right way.

May be Trouble

"As to the campaign of education which is being carried on at the present time: I don't know where the money comes from for it; I have not seen it in the western papers. I am a manufacturer out there, and we are somewhat in the same position as Belgium was in the war. We have got to take a kind of neutral attitude with regard to it. I was sent down here for the express purpose—but I don't likt to be unreasonable, and I don't wish to be unreasonable, and I know that the Association dues that you could get from Alberta would not be enough to keep a secretary in Alberta—but it seems to me some campaign of education is necessary, and this matter of what you call newspaper advertising does not foot the bill. But if we don't watch, gentlemen, there is going to be trouble. At the present time that agricultural development, that organization, that combination that is out there, is a growth of a few years. Now, I have no objection to the farmers getting together; they are all right in getting together, the same way as the manufacturers are, and I am not one of those who would not go to work in harmony with them, but what I can't understand is—and I am ready to be enlightened—what Mr. Parsons said the other day, that it seems to be impossible to get the members of the Manufacturers Association and the farmers together. I don't understand that. I am a farmer's son myself, and I have had a good deal to do with farmers, and I can go to the farmer any time, and while I cannot get him to agree with me, I can have an enlightened, intelligent conversation with him.

Insurance Area of West

"The point I want to make is this—we have in the West one division for Alberta, Saskatchewan and Manitoba; the secretary is in Winnipeg, and, if he wants to go to Alberta, he has got to go over some 800 miles. Some of you remember that cartoon that was in the paper after the war was over, when our men were back in the trenches, and England was here and Uncle Sam said, 'Don't be afraid, I will just be over here, 3,000 miles away.' Those Englishmen can come out to Winnipeg and Edmonton and their friends can write to them and say, 'Oh well, so and so is back here in Edmonton, you can go out there and have Christmas dinner with him.' There is a large stretch of territory there. I think it would be well for the Manufacturers Association to study the psychology of the farmer and put on some sort of educational campaign. This kind of antagonism that appears to be growing is not in the interests of Canada as a whole. You know yourself that the man who stays in a locality is probably not as broad-minded as the man that is able to get about a bit, and probably it is the duty of the Manufacturers Association to lead in the matter of trying to show the proper spirit. I just throw out those suggestions, gentlemen, in passing. If I had only had you in Edmonton instead of here I could make you understand."

(At a later stage in the proceedings, Mr. Robson referred as follows to the way the banks had met the farmers and laid their case before them).

"The farmers made an assault on the Canadian banks but Mr. Brown, of the Canadian Bank of Commerce, championed the cause of the banks and went into the Associations and handled the question tooth and nail. The suggestion I was going to make was that, in order to harmonize the relationship between the C.M.A. and the farmers, men who understood our views should go into their Associations and talk to them. Those associations all hold meetings and the members bring their families, and I don't believe the manufacturers have had a representative to say anything to them at their conventions. I believe that, if you have someone who will be there and talk to them, a great deal can be accomplished. I admit it will take some money to do it, but I don't know how it is going to be accomplished otherwise. I know that kind of personal touch gets over a great many difficulties, and that is what I was going to advocate."

Problems of the Day Facing Canadian People*

Relations Between Capital and Labor—Necessity to Find Outlets for Surplus Products—Maintenance of the Tariff Essential to Progress —Position of the Maritime Provinces at the Present Juncture

By W. S. FISHER

Chairman, 1918-19, Maritime Division, C.M.A.



W. S. FISHER
Enterprise Foundry Co., Sackville, N.B.
Elected 2nd Vice-President, 1919-20, C.M.A.

CONDITIONS the world over are very disturbed. How could it be otherwise after such a tremendous upheaval? Labor everywhere is seeking for greater opportunity, for more leisure, for higher wages, as an offset to the present high cost of living, and improvement in its conditions generally, and Capital naturally hesitates, owing to the uncertainty of the future and the general unrest now so much in evidence. Many extreme and fanciful views are put forward as a panacea to cure all ills by means of which everyone will prosper whether he works or not.

That these difficulties will right themselves in due time I have no doubt, though the process may be painful and tedious. The Government has appointed a Royal Commission composed of representatives of all classes, to study conditions between Capital and Labor and see how they can be improved. Let us hope that their efforts will meet with some measure of success and that order may arise out of the present chaos.

I think it goes without saying that every employer of labor realizes that a contented body of well-paid workmen and their hearty co-operation is one of his greatest assets; indeed, an important factor in the successful carrying on of his business. How to secure this co-operation and thus effect a better mutual understanding of the difficulties of each is a matter that deserves the most careful consideration, and which at this meeting should be thoroughly discussed.

We had hoped to have T. A. Moore, President Trades and Labor Council, with us at this session, but being in the West on the Royal Commission, he was unable to come.

Skilled Labor has as much at stake as Capital in the upbuilding of industry, and in its maintenance on a stable basis, and where the interests of both parties are so identical, it should be possible to find a way to get together to study each other's problems and difficulties, and so find a basis for mutual co-operation and helpfulness.

The productive capacity of Canada in every line has been immensely expanded by the war. Not only did we take care of our own home requirements, but exported hundreds of millions of dollars' worth of food products and manufactured goods in excess of any previous period, this notwithstanding the fact that practically half a million of our most active men were withdrawn from their usual employment.

Without going into statistics, but as illustrating the wonderful growth in our exports of manufactured goods during the war period, one example is sufficient, and it is that in 1918 our exports of pulp and paper alone were valued at something over eighty-nine millions of dollars, a greater amount than the total export of all manufactured goods from this country in any previous year in our history. One of the greatest problems now ahead of us is to find a market for the great surpluses of both food and manufactured goods that the war has made clear to us we are able to produce in excess of our own needs, and which we must continue to make and sell if we are to keep our people employed and maintain our prosperity.

How Pay Interest on Debt

If we fail to find this outlet, in what other way can we hope to pay the interest on the enormous debt incurred in connection with the war, which must be met? The U.S. with their highly developed industries, great natural resources and vast wealth, have made great strides during the past four years in opening up and securing a foothold in many foreign markets, which their Government and people are now making strenuous efforts to retain and increase.

Great Britain, too, emerges from the conflict much stronger industrially than ever, and better fitted, as well as more determined, to retain her share of the trade and commerce of the world.

On the other hand, Canada has become known the world over as a land of promise and prosperity, and many eyes are being turned our way, so that we may look forward to a large immigration to our shores as soon as the present world-wide unsettled conditions readjust themselves. Meanwhile a large number of American farmers from the United States are coming into the western provinces with their families (it is stated at the rate of one hundred thousand a year). These new home-makers are settlers of the very best type, having both money and experience, and are looking to Canada for better opportunities than they left behind. We give them a cordial welcome. What can be done to secure for the Maritime Provinces a share of these home-seekers, especially those coming from the Old Land? We have many advantages to offer them, a country already well settled, with a climate more like their own and an excellent opportunity for industrious men and women to create happy homes in our midst.

Let us therefore urge upon our Provincial Governments the desirability of an active propaganda in conjunction with the Federal Government that will secure for us a share of these newcomers who will soon be looking for homes overseas.

The eyes of the world are turned towards Canada as never before. The prompt and hearty response made by this country at the outbreak of war, the magnificent work of our troops at the front, their deeds of valor, courage and re-

* Address delivered by the retiring chairman at the annual meeting of the Maritime Division, Halifax, May 28, 1919.

sourcefulness in times of stress have made a lasting impression upon the world and upon all with whom our men came into contact. The manner also in which Canada responded to the call of the Motherland for food and munitions and the work of the women of this country during the years of anxiety and danger will form one of the most glorious chapters of our history.

To the memory of those heroic souls who gave their lives that the cause of right might prevail, we pay our homage of respect, and to the bereaved ones tender our sincere sympathy. Those who have returned to us, or are still to come, with bodies shattered or health impaired, we welcome back in the earnest hope that the Homeland may restore them once more to strength and vigour and assure them our hearty sympathy and co-operation.

Prospect is Bright

We also heartily welcome those who are returning in full health and strength and looking forward eagerly to rejoining their families and taking their places once more in the activities of life to do their part in building up a nationhood that will be a source of pride and joy to all those who live within its border. These men are coming back with a wider vision and increased knowledge and are bound to play an important part in shaping the future destinies of this country.

Under the protective policy, which has been in operation under different political parties for forty years, this country has prospered as never before, and during the past few years much American capital has been invested in branch factories in this country, which has given manufacturing a great impetus.

The prospect for further developing along the same lines has never been so bright as it is at present, with many American capitalists looking over the ground with a view to investing large sums in establishing factories within our border. One reason for this is that they wish to be in a position to take advantage of the preferential tariff within the Empire now being arranged.

What more conclusive argument can there be in favor of a moderate protective tariff than the fact that Great Britain after centuries of free trade, has adopted this plan as necessary for its future safety and preservation and that of the Empire?

The tariff is in every sense a national issue, and any attempt to localize it highly unpatriotic. That this country must have a tariff that will give proper and reasonable protection to those interests that require it there can be no doubt, and with this general principle both political parties are in accord.

Tariff Should be as Low as Possible

That it shall be as low as is consistent with this principle is certainly most desirable in order that we may make this country as cheap as possible to live in. Let us urge, therefore, that the Government will without delay appoint a Commission of capable men who will study the question from every angle, and, after thoughtful consideration of all interests involved, submit a plan that will make for the prosperity of all classes, whether agricultural, industrial or commercial, and for the more rapid development of our national life along sound lines.

There is a good deal said in general terms about the profit of the manufacturers, which is very misleading, and which the history of manufacturing in this country does not justify. Those who make these statements, as a rule, are people having no interest in manufacturing, in fact, those who could not be induced to take the risk of investing their money in this way. While it is true that this country has many prosperous industries, the majority have had to fight hard for existence against great odds.

All that is necessary is to look back over the history of manufacturing in this country during the past thirty years in order to realize what a tremendous struggle it has been and how many have fallen by the wayside. The successful ones are those who, by ability, hard work, economy and perseverance, have overcome the difficulties in their path, and have been able to build up industries that now form the backbone of many thriving towns all over this country. In illustration of the relentless struggle waged by those engaged in industry, it is only necessary to cite a portion of a report submitted about two years ago by a Federal Trade Commission in United States. This report points out that out of 250,000 concerns which their enquiries covered, over 100,000 earn no net income whatever. In addition, 90,000 make less than $5,000 a year. This means that only one in four is successful enough to earn more than $5,000 per year net profits.

Canada, her resources and possibilities, are being discussed and written about everywhere, and the value of all this and its influence on our future progress and prosperity no one can measure. We, in the Maritime Provinces, are very proud of this and of our share in what has helped to bring it about. The question that concerns us most, as business men, however, is what we are to secure from the development that will follow, and we know from experience that things are a good deal as we make them.

Advantages of the Maritimes

The advantages of our geographical situation are very great, these provinces forming as they do an important link in the chain of World Empire traffic, our ports offering the shortest sea voyage to this continent, and, what is equally important, are open year around. The experience of the past four or five years has made clear to the people of the West the importance of the Maritime ports, providing as they did, during the three winters prior to the entry of the United States into the war, the only outlet for troops and munitions over Canadian soil.

This fact, and the importance of it is not fully realized by the people in the interior and west, and we should lose no opportunity to emphasize it in order that we may secure the recognition that is due us. Our natural resources are very great and varied, embracing, as they do, the wealth of the forest, the mine, the soil, and the sea, which together are the fundamentals of wealth. We also have an intelligent, resourceful and energetic population.

Are we therefore making the full and best use of our opportunities in the development of the resources at hand and of our geographical position? Should we not make a greater effort to secure the attention of those who are looking to the establishment of industries, especially those for export trade?

Regarding power, which is our greatest lack in the growth of manufacturing, the various local Governments are now engaged in a careful investigation to see what latent power is available, and our Association should keep this subject constantly in the public eye so that no time may be lost in providing this element which is so essential to the development of our industrial life.

I feel that a word should be said to commend the action of the Government in creating trade commissions, especially that headed by Lloyd Harris, who for a year or two did excellent work for Canada in Washington in securing war contracts. The work that is now being done in Europe by Mr. Harris and his associates, with headquarters in London, is of even greater advantage, coming as it does at this critical transition period when Canada needs all the business that

can be secured in order to keep the wheels of industry moving. I feel, too, that we should express our satisfaction at the passing of a general Bankruptcy Act, thus securing uniformity in the treatment of bankrupt estates throughout the Dominion, instead of the many and various Acts that it supersedes, also that the Government have passed a vote alloting a large sum to be devoted to vocational and technical education, to be divided *pro rata* among all the provinces who choose to take advantage of it.

At various meetings of the Maritime Branch held during the past two years, we have heard many fine addresses by able men dealing with matters of great interest, such as development of water powers, technical and vocational education, application of science and research to industry, workman's compensation, accident prevention, fire prevention and safety appliances, export trade, reorganization of industries after the war, Maritime Union, and from all of which I feel sure those who had the privilege of hearing received much benefit. This branch, though in its infancy, has already done good work for the members, and I am confident that as time goes on the services rendered will be found of still greater value.

Our Secretary, in his report, will tell you about the various activities carried on during the past year, especially his own work, and I wish here to testify to the zeal and earnestness he has shown in carrying on the duties of his office, and to express the hope that it may be possible to retain his services in the future.

In retiring from office, I want to express my sincere thanks to the members of the Executive Committee and the membership at large for the uniform courtesy and hearty co-operation extended to me during the time of my occupancy of the office of chairman, and to say that this period has been one of great pleasure to me.

An Industrial Art Movement for Canada

By E. C. McKINNON

President. Guild of Arts and Crafts of St. Catharines

A STRONG undercurrent is bringing art and industry together again, after a century of alienation. In the old days, they were mutually interdependent. The furniture-maker, the pot-and-pan maker, the weaver, the stone-cutter, were all craftsmen, and, in so far as they did their work well and gave to it good qualities of form and color, they were artists.

To-day, conditions are uite different, because of the tremendous development of machinery. When the manufacturer began to realise the almost unlimited possibilities open to mechanical ingenuity, he usually forgot to provide for the thing that the machine alone can never possess,—the human instinct for beauty. This gave the designing of articles of everyday use in house-building and furnishing, clothing, and various minor necessities into the hands of people who, while expert in their own field, had no training in the laws of proportion and color, and no taste, except in a few fortunate instances. Thus, although the purely mechanical and utilitarian manufacturers of the new countries, where art was not held of serious account, easily began to rank high in the world's trade, yet the so-called "art manufactures," when they were developed, were contented to stay in second or third place.

European countries had lost little time in adapting many of their artists to the requirements of trade, knowing that only by the use of thoroughly trained and well-paid designers could their prestige be maintained. But in America, the artists were all driven to painting pictures; which they, in self-defence, began to explain was the only work suitable for an artist.

This lamentable state of affairs is fast improving, but there is great need for an organized Industrial Art movement in Canada, such as is now sweeping the United States.

The principal lines of manufacture which would be directly benefited are:

Building trades of all sorts, makers of decorative concrete, clay products and tile, ornamental glass, mantels and grates, builders' hardware, metal castings, monuments.

Makers of all kinds of household furnishings and utensils, silver-ware, baskets, wall-papers, electric fixtures, stoves, furniture.

Automobiles and accessories.

Makers and buyers of boxes, cartons and containers. Metal-ware products.

Lithographers, printers, engravers and embossers. Makers and users of labels, signs, banners, advertising novelties.

Photographers, film-makers, brass and copper founders.

Textile industries; toys.

Among the objects and results would be:

(1) The founding of industrial art schools, such as flourish in every large and small industrial centre in Europe, where young people of talent can be encouraged to do more practical designing and less picture-painting, except in case of those gifted along that particular line.

(2) Co-operation between the live art organizations of the country and those representing manufacturing interests. An Exhibition might be held on lines similar to that recently given at the Albright Gallery, Buffalo, under the auspices of the Chamber of Commerce and other leading business organizations, as well as of the art societies, showing in just what ways the use of art in industry is commercially profitable, not only to the individual manufacturer but to the trade of the country as a whole.

(3) The establishment of an independent and characteristic school of Canadian design, enriched by study of the past and by contributions from our foreign population, but freed from the rigid shackles of "historic styles."

(4) Encouragement of the creative impulse in industsy, leading to more satisfying conditions of labor. Conclusions reached by economists and industrial experts of the more modern "humanist" school, although arrived at by quite a different process, present essentially the same point of view as that always held by great artists as rock-bottom truth in regard to the relation between man and his work. The art organizations and institutions of Canada are quite awake to the vital issues of the day, and consideration of their attitude on these points may shed some light on the vast difficulties which threaten the industrial world.

As a first step in the movement, which aims to be of benefit to the commercial as well as the artistic welfare of the country, it is desired that the Secretary of the Canadian Manufacturers' Association secure the names of all members who would be interested,—

First: In using Canadian designs, if it were possible to secure suitable ones. Second: In becoming members of a proposed national Industrial Art Association, to further the general and specific objects before mentioned. If the response is sufficiently encouraging, steps may be taken during the summer, in the matter of an exhibition.

Millions of Cards for Made-in-Canada Appeal

Canadian Reconstruction Association Launches its Big Campaign this Month for the Encouragement of Home Industry—Leaflet Prepared by the Association Exposing Some of the Evils of German Propaganda and Bolshevism

By SIR JOHN WILLISON
President, Canadian Reconstruction Association

THERE has been an immediate and gratifying response from manufacturers to the Made in Canada campaign proposals of the Canadian Reconstruction Association. As stated in the last issue of INDUSTRIAL CANADA the Association has arranged for an extensive poster advertising campaign in cities and towns throughout the Dominion. This will be supplemented by the circulation through manufacturers of colored pictorial cards designed to make a special Made in Canada appeal to employees and purchasers. The poster campaign will be launched on July 1st. At the same time it is hoped that hundreds of thousands of the smaller cards will be in circulation. Arrangements have already been made for printing 5,000,000 cards, and manufacturers were recently notified that the cards could be had free upon application. In urging their distribution the Association said: "Adequate circulation for these cards is impossible without the direct co-operation, in their own interests, of Canadian manufacturers. In sending this bulletin to you, the Association presents actual reproductions of the cards. These cards will be sent to you in any quantities you may desire for direct distribution to your employees and customers, and the following methods of distribution are suggested:

Insert the cards in your business letters.
Insert the cards in your pay envelopes.
Attach the cards to pay cheques.
Distribute the cards by hand to your employees.

Other methods will suggest themselves to you. Whatever the method, the Association will appreciate your active co-operation to make distribution as effective as possible. It is your business, our business and the nation's business."

Hundreds of thousands of cards have already been ordered. One firm alone is taking over 750,000. Many firms have asked for amounts varying from 30,000 to 5,000, and it is expected that a second edition of the cards will have to be printed almost immediately.

Booklet on Bolshevism

In view of the disturbed industrial situation and the pronounced Bolshevist activities in Canada, the Canadian Reconstruction Association has prepared a special four-page leaflet dealing with the findings of the Overman Committee of the United States Senate on German Propaganda and Bolshevism. A quarter of a million leaflets have been ordered, and it is planned to give them the widest possible circulation. Copies have been sent to members of the Federal and Provincial Parliaments, manufacturers, labor unions, clergymen, farmers, school teachers, University professors, bank managers, brokers, doctors, and others. The close industrial relationship between the United States and Canada and the exhaustive investigation of Bolshevism by the United States Senate gives particular value to the report. Some of the statements of the Overman Committee are so striking that reproduction may be permitted here.

Concerning the family, the Committee says: "Bolshevism accords to the family no such sacred place in society as modern civilization accords to it. Conflicting reports have been passing current during the last few months relative to the nationalization of women by the new Russian Government. Two or three local Soviets have apparently thus degraded the womanhood of their particular districts, but the central Government has refrained from adopting any such policy in the whole nation. They have, however, promulgated decrees relating to marriage and divorce which practically establishes a state of free love. Their effect has been to furnish a vehicle for the legalization of prostitution by permitting the annulment of the marriage bonds at the whim of the parties, recognizing their collusive purposes as a ground for the severance of the matrimonial state. The apparent purpose of the Bolshevist Government is to make the Russian citizen, and especially the women and children, the wards and dependents of that Government. Not satisfied with the degree of dependency incurred by the economic and industrial control assumed by its functionaries, it has destroyed the moral obligation of the father to provide, care for and adequately protect the child of his blood and the mother of that child against the misfortunes of orphanhood and widowhood."

Russia's Industry Ruined

There has been frequent official testimony to the industrial stagnation in Russia. Concerning this ruination of industry the report says: "Confiscation, under the milder term of nationalization, has eliminated from all industrial establishments such as factories, mills, and mines the business acumen and scientific methods necessary to successful operation and competitive methods. This has been followed by the stagnation of the industrial life of the country, and even those nationalized industries which have been able to operate under Government control have operated at an enormous percentage of loss, the deficiencies being met from the unlimited issue of fiat paper money printed by the Government. The nationalization of the enterprises essential to the production and delivery of raw materials has so handicapped their production as to restrict the quantity of raw materials available for the maintenance of industrial enterprises, and the whole economic condition of Russia has made it impossible to secure relief from foreign sources."

The grave danger to rural communities through the nationalization of land is exposed in a few short paragraphs which deserve the attention of farmers throughout Canada. The Committee says that if the Bolshevists secured control of the United States as they have of Russia, millions of farmers would be deprived of the right of participation in the affairs of government and substantial elements of the rural population would be subjected to special repression and restrictions. "Under the revolutionary formula the voting power of the cities would be five times as great as that of the rural communities, the ratio of the representation in cities being 1 to every 25,000 of the population, while that of the rural districts would be only 1 to every 125,000 of the population. In the United States the rural population under the 1910 census was considerably in excess of the urban. We must also remember that the application of the formula would include the disarming of all disfranchised classes and the

arming to the teeth of the criminal and alien elements. It would result in the confiscation by the Government thus constituted of the land of the United States including 6,361,502 farms, of which 62.1 per cent, or 3,948,722 farms, are owned in fee by the farmers who cultivate them and represent the labor and toil of a life-time. On the farms of the United States there are improvements, machinery, and live stock to the value $40,991,449,090, (census of 1910), all of which would be confiscated with the land."

On bank deposits and life insurance, the Committee says: "Complete control of all banking institutions and their assets is an essential part of the (Bolshevist) revolutionary programme, and the 31,492 banks in the United States would be taken over by the Government and the savings of millions, including 11,397,553 depositors drawing interest on accounts in savings banks, and consequently belonging to the so-called bourgeois or capitalistic class, jeopardized."

"One of the most appalling and far-reaching consequences of an application of Bolshevism in the United States would be found in the confiscation and liquidation of its life insurance companies. Almost 50,000,000 life insurance policies representing nearly $30,000,000,000 of insurance, the substantial protection of the women and children of the nation, would be rendered valueless."

The Need for Civil Service Reform

By H. MACDONALD
Secretary Legal Department, C.M.A

IN connection with the resolution passed at the last annual meeting of the Toronto Branch, it may be fitting to state that the interest of the C.M.A. in Civil Service Reform lies entirely in the fact that an efficient public service is of the greatest possible importance to the well-being of the country. The day is past when this subject can be viewed from a political standpoint—least of all from the standpoint of party politics. The transactions of business men bring them into close and frequent association with Government officials, as well as with the Ministers of the Crown, and the fitness of officials for the positions they occupy is as easily noticeable by our members as is unfitness, where it exists. An efficient Civil Service means promptness, energy, skill and intelligence in handling public business and the country demands no less than such qualifications as these, in its officials.

The C.M.A. favors the absolute elimination of patronage in the selection, appointment, promotion and service generally of all public officials holding office under the Dominion Government and also Provincial Governments.

To secure this end, the following provisions should be made:—

(1) The powers of the Service Commission should be sufficiently large to enable it, without reference to Ministers of the Crown, to deal with all questions respecting the efficiency of the Civil Service.

(2) The Deputy Ministers, the heads of branches of the Public Service, ought to be charged with full responsibility for the proper carrying on of the work of the Department or branch concerned, and for the proper discharge of all duties in their respective Departments or branches The relations between the deputies and heads of branches, on the one hand, and the Civil Service Commission, on the other, should be well defined with the object of obtaining the best possible results.

(3) In matters of dispute between the Civil Service Commission and a deputy minister or head of a branch, an appeal might be made to a Minister, on whom the ultimate responsibility would naturally rest.

(4) Demanding first-class service and undoubted efficiency, the country should be willing to pay for such, according to the standard observed in the country.

Work of Cabinet Ministers

It is important that there should be a greater devolution of duties from Ministers of the Crown upon those under them than at present in most cases exists. For instance, Ministers of the Crown ought to be left free from matters of routine and from details of the work of their departments, so that their time may be devoted to the greater questions of policy and general direction of administration within broad lines. At present it is customary for Ministers to grant interviews on a large variety of comparatively unimportant business. This is done as a matter of courtesy and supposed good policy on the part of the Ministers, whereas it is unbusinesslike in so much as a great deal of time is thereby diverted from the proper consideration of large questions of vital importance to the country. There can be no doubt that Deputy Ministers and others placed in positions of responsibility, ought to be invested with sufficient powers to transact, at first hand, a great deal of ordinary business submitted for the consideration and decision of Ministers of the Crown, and a strong feeling exists that here sweeping reform is very much to be desired. If the gigantic problems of the public service, urgently awaiting solution, are to be handled effectively, the machinery of our public services must be reconstructed on the most approved principles.

Sowing the Seed

A RECENT visitor at the Winnipeg office of the Canadian Manufacturers Association was Mr. Asher Cucuy, the representative of a party of approximately two hundred Hebrew families who have been farming in Western Canada for some years and who are now planning to return to Palestine and form a settlement there. One of their number will leave shortly with a view to securing land and making arrangements for the families who will leave next fall. Mr. Cucuy states that as all these people have become accustomed to the use of Canadian and American manufactured goods, they desire to place themselves in communication with Canadian manufacturers with a view to obtaining a continuous supply of their goods for use in Palestine. Mr. Cucuy was assured of the interest of the Association in this matter and was supplied with a copy of the Canadian Trade Index.

Unemployment Pay in Great Britain

Over a Million People are in Receipt of the Out-of-Work Donation, and a Sum of Twenty-five Million Pounds has been Provided in this Year's Budget to Meet the Charge—Some Glaring Abuses Have Crept Into the System, Despite its Advantages

By JOHN C. KIRKWOOD

ONE million and ninety thousand persons in Great Britain are drawing the unemployment donation or "dole" given by the Government of the country. Of these, 350,000 are "members of His Majesty's forces"; 40,000 are women; 108,000 belong to the engineering trade, and 100,000 to the cotton trade.

With the Armistice came the prospect of large numbers of people on the street without any means of livelihood, and the only alternatives to unemployment pay were to leave them to fend for themselves, or to continue the useless manufacture of munitions.

High Pay for Idlers

The figure at which the unemployment donation or dole was originally fixed—namely, 29/ per week for men, and 25/ for women—was such as to induce certain persons to remain idle rather than to look assiduously for work. This circumstance led to a revision of out-of-work pay, and the 29/ a week for men fell to 20/, and the 25/ a week for women to 15/. Only ex-soldiers and ex-sailors receive any higher rate than the reduced scale.

Mr. Kirkwood, whose contributions during the past year, especially along the line of cost accounting, have been much appreciated by readers of INDUSTRIAL CANADA, is now resident in London, England. From time to time he will send over articles dealing with the problems with which Industry is faced in the Old Country, in the hope that the experience of British manufacturers may prove advantageous to Canadian manufacturers.—Editor.

Since the Armistice, more than 2,500,000 service men have been demobilized, and 1,500,000 workers on war industries have been released, making a total in excess of 4,000,000. Instead of the number of recipients of the "dole" lessening, Government experts expect it to increase. Cotton manufacturers, for example, contend that they cannot continue work because of the high prices being asked in the United States for raw cotton, and in consequence, by agreement with the Trade Unions, they have "locked out" the 200,000 operatives so that they may draw the Government unemployed donation.

The lure of out-of-work pay is making it difficult for some employers to obtain workers in sufficient numbers, and has led to large numbers of persons actually leaving their employment for the imagined pleasures of idleness.

Unemployment, to a very considerable extent, is alleged to be attributable to employers, who have not fully co-operated with the Employment or Labor Exchanges, neglecting to answer enquiries. Sir Robert Horne, Minister of Labor, has made a strong appeal to employers for their greater co-operation with, and use of the Labor Exchanges as a means for reducing unemployment. Following is the text of a circular letter addressed to employers:

"At a time when the efforts of the nation should be devoted to the resumption of economic life and the avoidance of unemployment throughout the country, I make a personal appeal to all employers to notify their requirements of labor, skilled and unskilled, to the Employment Exchanges, and also, so far as possible, to advise the Exchanges well in advance of intentions to discharge labor where any considerable numbers are involved.

"The Exchanges, as the medium of payment of out-of-work donation, have knowledge of the classes and numbers of workpeople awaiting employment in the district which they serve, and are able also to introduce labor from other districts when the necessity arises. It is of the utmsot importance that the Government should be kept informed of the extent to which EMPLOYMENT is increasing or decreasing in each area, in order that, with the assistance of the local advisory committees connected with each Exchange, preparations may be made for the absorption of surplus labor. As is generally known, the Exhanges are national in character and no charge is made either to employer or workpeople for the services undertaken.

"Employers can also render valuable assistance in the administration of the out-of-work donation scheme by returning to the Employment Exchange with any appropriate comments the Form U. I. 85, which is sent to the last employer, as given by any applicant for donation.

"R. S. HORNE,
"Minister of Labor."

When a claim is made for payments of out-of-work donation, the particulars supplied by the applicant are always sent to the last employer, who is asked to state whether they are correct, and for what reason the employment of the person terminated. It is obvious that the information thus obtained must be of great service in the detection of improper claims.

Sir Robert Horne has complained bitterly that in the great majority of cases, employers have not troubled to answer enquiries addressed to them. One employer in great need of labor actually wrote, "We have never had anything to do with Labor Exchanges."

Another difficulty in finding employment for persons willing to work, and in assisting employers in their need of labor, is the great shortage in houses. In one place, for instance, where 3,000 people could be employed, no houses could be found for them. Still another bar to employment is the low pay which many employers have offered. Fourteen shillings a week was offered by one firm in need of 200 tailoresses—this is in face of the fact that the out-of-work pay for women is 15/- a week.

Weeding Out the Wilful Idlers

At the beginning of the institution of unemployment pay, it was easier to get on the "dole" list than it is to-day. Frauds have been very many, and

this circumstance has led to a more rigid investigation of applications. Also, public criticism has been salutary in its effect. Recipients of the unemployment must make fresh applications for a continuation of their dole, and have to go before the Local Advisory Committee. This ordeal has caused a 50 per cent. fall in the number of those seeking a continuation of the dole, and 20 per cent. of the applications going before the committees are rejected. In addition to the Advisory Committee are investigators, and a committee has been appointed to enquire into the whole administration of the unemployed benefit.

The Court of Referees had up to April 17th last, held 5,952 sittings relating to out-of-work donation cases, and disposed of nearly 113,000 cases. An analysis of 5,170 sittings shows that out of 95,045 cases heard, 26,250 claims were allowed, and 68,756 disallowed, while in 39 there was a compromise. The proportion of allowances to total claims was therefore 72.3 per cent.

As illustrating the spirit and action of the Government in discouraging unnecessary unemployment was the stopping of the unemployment donation to 17,000 girls who have refused domestic service. Also, notices have been posted at the employment exchanges, stating that as from May 15th, 1919, no out-of-work donations will be paid to civilians above 18 years of age who were not employed in each of at least 20 weeks during 1918. Incidentally it may be said that between November of last year and May of this year, £1,000,000 a week was paid to the unemployed. The sum budgeted for the current fiscal year is £25,000,000—or about £500,000 a week.

Out-of-work donation frauds are very prevalent throughout the whole of the country. Some hundreds of cases have been referred to the solicitor of the Employment Department of the Ministry of Labor to decide whether prosecution should be instituted in regard to fraudulent unemployment donation claims, and offenders are commonly fined, but in some cases a prison term is their fate. In the budget debate in the House of Commons on the item of £25,000,000 for unemployment donation, several members told of frauds and abuses. In Ireland, it was stated, farmer's sons drove into the towns to collect their doles, and farmer's wives drove in their servants, and waited for them while the girls drew the money. A farmer went into his field, and found that his laborers had gone—they were away, drawing unemployed benefit. Charwomen have stipulated that they should have half-an-hour off in the middle of the day in order to go to the Employment Exchange for unemployed benefit. Four men were seen to drive in a taxicab to a London Labor Exchange. They went to the head of the queue, gave the four leading men 1/- apiece, took their places, went in and signed as being out of work, went out again, jumped into their waiting cab and motored off to the races at Epsom.

A man getting unemployment pay, and fined for gaming, said that he was not looking for work, but was waiting for the Government to find him a job.

One sinner made the collection of the dole a regular business. He registered as an unemployed under false names at several Labor Exchanges, and was in receipt, when caught, of an income from doles of over £7 a week. A laborer drawing £4 a week from his employment, obtained £5-10-0 by false pretenses. Similar cases can be recited to the point of weariness.

"The unemployment donation has ont only been an insurance against Bolshevism"—so asserts the Secretary of the Ministry of Labor—"but it has been an immense advantage to hundreds of thousands of people faced by the spectre of want." Generally it is admitted that the "dole" is right in principle. What has been complained of is the slipshod and slovenly fashion in which it has been administered. But is has been a new idea and fact in Great Britain, and experience teaches. The substitution of work for doles is the ultimate aim.

THE REORGANIZED CANADIAN TRADE COMMISSION



H. B. THOMSON



SIR CHARLES GORDON
Chairman



RHYS D. FAIRBAIRN

The membership of the Canadian Trade Commission, as recently reorganized, consists of Sir Charles Gordon, chairman; Mr. H. B. Thomson, formerly Food Controller; and Mr. Rhys D. Fairbairn, Toronto, the last-mentioned taking the place of Mr. C. B. McNaught. Articles describing the work of the Commission have already appeared in INDUSTRIAL CANADA. It will continue to carry out these plans, working in close association with the Dominion Government, the Trade Mission in London, and the Canadian Manufacturers' Association.

Canadian Manufacturers Association

Officers and Committees Elected for 1919-1920 at the Annual Meeting

President

T. P. Howard ..... The Phoenix Bridge & Iron Works, Ltd. ..... Montreal, Que.

First Vice-President

J. S. McKinnon ... S. F. McKinnon & Co., Ltd..... Toronto, Ont.

Second Vice-President

W. S. Fisher ..... Enterprise Foundry Co. ..... Sackville, N.B.

Treasurer

J. F. Ellis ..... Barber-Ellis, Ltd. ..... Toronto, Ont.

Auditor

Wilton C. Eddis.... Wilton C. Eddis & Co. ..... Toronto, Ont.

EXECUTIVE COUNCIL

(a) Appointive

J. H. Sherrard	Alaska Bedding Co., Ltd.	Montreal, Que.
Sir Chas. B. Gordon.	Dominion Textile Co., Ltd.	Montreal, Que.
P. W. Ellis	P. W. Ellis & Co., Ltd.	Toronto, Ont.
C. A. Birge	Steel Co. of Canada, Ltd.	Hamilton, Ont.
W. K. George.....	59 Yonge St.	Toronto, Ont.
H. Cockshutt	Cockshutt Plow Co.	Brantford, Ont.
R. Hobson	Steel Co. of Canada, Ltd.	Hamilton, Ont.
R. S. Gourlay.....	Gourlay, Winter & Leeming, Ltd..	Toronto, Ont.
E. G. Henderson...	Canadian Salt Co., Ltd.	Windsor, Ont.

(b) Elective

Maritime Provinces

R. H. MacKay.....	Canada Tool & Specialty Co., Ltd..	New Glasgow, N.S.
J. D. Palmer.....	Hartt Boot & Shoe Co., Ltd.	Fredericton, N.B.
L. W. Simms.....	T. S. Simms & Co., Ltd.	St. John, N.B.
C. A. Lusby.....	Amherst Foundry Co., Ltd.	Amherst, N.S.
A. D. Ganong.....	Ganong Bros., Ltd.	St. John, N.B.

Montreal

G. F. Benson.....	Canada Starch Co., Ltd.	Montreal, Que.
B. W. Coghlin.....	B. J. Coghlin Co., Ltd.	Montreal, Que.
F. G. Daniels.....	Dominion Textile Co., Ltd.	Montreal, Que.
W. A. Desbarats...	Desbarats Printing Co., Ltd.....	Montreal, Que.
P. E. Joubert.....	Lamontagne, Ltd.	Montreal, Que.
R. H. McMaster...	The Steel Co. of Canada, Ltd. ...	Montreal, Que.
R. E. Jamieson....	The Canadian Consolidated Rubber Co., Ltd.	Montreal, Que.
S. J. B. Rolland...	Rolland Paper Co., Ltd.	Montreal, Que.
Wm. Rutherford ...	Wm. Rutherford & Sons Co., Ltd..	Montreal, Que.
G. A. Slater	Geo. A. Slater, Ltd.	Montreal, Que.
C. Howard Smith...	Howard Smith Paper Mills, Ltd..	Montreal, Que.
F. W. Stewart.....	Cluett Peabody & Co.	Montreal, Que.

Quebec City

J. H. Fortier	Elz. Fortier & Frere	Quebec City.
Jos. Picard	Rock City Tobacco Co., Ltd.	Quebec City.

Quebec Province

C. R. Whitehead...	Wabasco Cotton Co., Ltd.	Three Rivers, Que.
J. O. Gareau.....	E. T. Corset Co., Ltd.	St. Hyacinthe, Que.
F. J. Campbell.....	Canada Paper Co., Ltd.	Windsor Mills, Que.

Sherbrooke

Geo. D. MacKinnon..	MacKinnon Steel, Co., Ltd.	Sherbrooke, Que.

Toronto

L. L. Anthes	Anthes Foundry, Ltd.	Toronto, Ont.
Geo. Brigden	Brigdens, Ltd.	Toronto, Ont.
Thos. Findley	Massey-Harris Co., Ltd.	Toronto, Ont.
Jno. Firstbrook ...	Firstbrook Bros., Ltd.	Toronto, Ont.
E. J. Freyseng.....	Freyseng Cork Co., Ltd.	Toronto, Ont.
C. V. Harding....	Toronto Carpet Mfg. Co., Ltd....	Toronto, Ont.
S. Harris	Harris Lithographing Co., Ltd. ..	Toronto, Ont.
T. A. Hollinrake...	A. R. Williams Machinery Co., Ltd.	Toronto, Ont.
W. C. Laidlaw.....	R. Laidlaw Lumber Co., Ltd.	Toronto, Ont.
L. L. McMurray...	Gutta Percha & Rubber Co., Ltd..	Toronto, Ont.
T. F. Monypenny...	Imperial Varnish & Color Co., Ltd.	Toronto, Ont.
J. A. Riordan.....	Standard Sanitary Mfg. Co., Ltd..	Toronto, Ont.
Thos. Roden	Roden Bros., Ltd.	Toronto, Ont.
F. A. Rolph.....	Rolph-Clark-Stone, Ltd.	Toronto, Ont.
J. F. M. Stewart...	Point Anne Quarries, Ltd.	Toronto, Ont.
Geo. W. Watts.....	Canadian General Electric Co., Ltd.	Toronto, Ont.
J. A. Ross.....	Wm. Wrigley, Jr., Co., Ltd.	Toronto, Ont.

Hamilton

H. H. Champ	The Steel Co. of Canada, Ltd. ...	Hamilton, Ont.
A. F. Hatch.....	Canada Steel Goods Co., Ltd. ...	Hamilton, Ont.
H. J. Waddie.....	Canadian Drawn Steel Co., Ltd...	Hamilton, Ont.
Geo. C. Copnley....	Coppley, Noyes & Randall, Ltd...	Hamilton, Ont.
W. H. Marsh.....	Standard Underground Cable Co. of Canada, Ltd.	Hamilton, Ont.

Ontario

A. W. White.....	Geo. White & Sons, Co., Ltd....	London, Ont.
H. Bertram	John Bertram & Sons Co., Ltd....	Dundas, Ont.
J. R. Shaw	Canada Furniture Mfrs., Ltd.	Woodstock, Ont.
R. W. Leonard.....	Coniagas Reduction Co., Ltd.	St. Catharines.
Geo. D. Forbes....	R. Forbes Co., Ltd.	Hespeler, Ont.
J. M. Taylor.....	Taylor-Forbes Co., Ltd.	Guelph, Ont.
R. S. McLaughlin...	McLaughlin Motor Car Co., Ltd...	Oshawa, Ont.
R. O. McCulloch....	Goldie & McCulloch Co., Ltd. ...	Galt, Ont.
S. J. Williams.....	Williams, Green & Rome Co., Ltd..	Kitchener, Ont.
G. M. McGregor....	Ford Motor Co. of Canada, Ltd...	Ford, Ont.
T. J. Storey.....	Carriage Factories, Ltd.	Toronto, Ont.
C. H. Waterous....	Waterous Engine Works Co., Ltd...	Brantford, Ont.
Gordon S. Rutherford.	Brunner Mond Canada, Ltd. ...	Amherstburg, Ont.
W. M. Gartshore...	McClary Mfg. Co.	London, Ont.
M. R. Meldrum....	Herbert Morris Crane & Hoist Co., Ltd.	NiagaraFalls, Ont.
W. C. Phillips.....	Frontenac Moulding & Glass Co..	Kingston, Ont.
W. R. Breyfogle....	De Laval Co., Ltd.	Peterboro, Ont.
W. S. Richardson...	Peterboro Canoe Co., Ltd.	Peterboro, Ont.

Prairie Provinces

J. O. Thorn.....	Metallic Roofing Co. of Canada, Ltd.	Winnipeg, Man.
N. W. Warren...	Dominion Bridge Co., Ltd.	Winnipeg, Man.
T. R. Deacon	Manitoba Bridge & Iron Works, Ltd.	Winnipeg, Man.
J. E. Wildman	Sheet Metal Products Co. of Canada, Ltd.	Winnipeg, Man.
F. W. Drewry	Edward L. Drewry, Ltd.	Winnipeg, Man.
Wm. Martin	Manitoba Gypsum Co., Ltd.	Winnipeg, Man.
M. F. Christie...	G. F. Stephens & Co., Ltd.	Winnipeg, Man.
W. G. Fraser.....	Beaver Soap Co., Ltd.	Winnipeg, Man.
W. J. Fulton.....	Dominion Radiator Co., Ltd.	Winnipeg, Man.
A. B. Stovel.....	Stovel Co., Ltd.	Winnipeg, Man.

British Columbia

W. H. Leckie.....	J. Leckie Co., Ltd.	Vancouver, B.C.
John R. Duncan....	Vulcan Iron Works, Ltd.	Vancouver, B.C.
J. W. F. Johnston..	British Columbia Sugar Refining Co., Ltd.	Vancouver, B.C.

Ex Officio

Thos. Cantley	Nova Scotia Steel & Coal Co., Ltd.	New Glasgow, N.S.
S. R. Parsons.....	British American Oil Co., Ltd. ...	Toronto, Ont.
W. J. Bulman.....	Bulman Bros., Ltd.	Winnipeg, Man.

TARIFF COMMITTEE

E. J. Davis ..... (Chairman)	Davis Leather Co., Ltd.	Newmarket, Ont.
Geo. W. Watts.....	Canadian General Electric Co., Ltd.	Toronto, Ont.
E. G. Henderson...	Canadian Salt Co., Ltd.	Windsor, Ont.
Geo F. Benson....	Canada Starch Co., Ltd.	Montreal, Que.
J. M. Taylor.....	Taylor-Forbes Co., Ltd.	Guelph, Ont.
M. C. Ellis.....	P. W. Ellis & Co.	Toronto, Ont.

TRANSPORTATION COMMITTEE

Burton S. Harris... (Chairman)	Massey-Harris Co., Ltd.	Toronto, Ont.
W. R. Breyfogle...	De Laval Co., Ltd.	Peterboro, Ont.
W. R. Dunn.....	International Harvester Co. of Canada, Ltd.	Hamilton, Ont.
H. P. D. Graham...	Goodyear Tire & Rubber Co. of Canada, Ltd.	Toronto, Ont.
Henry Bertram ...	John Bertram & Sons Co., Ltd..	Dundas, Ont.
Jas. A. Riordan...	Standard Sanitary Mfg. Co., Ltd..	Toronto, Ont.

LEGISLATION COMMITTEE

Sam. Harris ..... (Chairman)	Harris Lithographing Co., Ltd....	Toronto, Ont.
Geo. C. Coppley ...	Coppley, Noyes & Randall, Ltd..	Hamilton, Ont.
J. O. Thorn.....	Metallic Roofing Co. of Canada, Ltd.	Winnipeg, Man.
Arthur Hewitt	Consumers' Gas Co. of Toronto...	Toronto, Ont.
H. I. Thomas.....	J. R. Booth	Ottawa, Ont.
Geo. Slater	Geo. A. Slater, Ltd.	Montreal, Que.

INSURANCE COMMITTEE

H. W. Fleury .... (Chairman)	J. Fleury's Sons	Aurora, Ont.
W. H. Shapley.....	Sterling Actions & Keys	Toronto, Ont.
W. S. Fallis.....	Sherwin-Williams Co. of Canada..	Montreal, Que.
R. E. Jamieson.....	Consolidated Rubber Co., Ltd....	Montreal, Que.
A. T. Enlow.....	Dominion Sheet Metal Co., Ltd...	Hamilton, Ont.
R. T. Kelly.....	John Bull Mfg. Co.	Hamilton, Ont.

MEMBERSHIP COMMITTEE

H. A. Telfer ..... (Chairman)	Telfer Bros., Ltd.	Toronto, Ont.
W. C. Laidlaw.....	R. Laidlaw Lumber Co.	Toronto, Ont.
J. Allan Ross.....	Wm. Wrigley, Jr., Co., Ltd.....	Toronto, Ont.
J. E. Davies.....	Alberta Foundry & Machine Co., Ltd.	Medicine Hat,
H. B. Peabody.....	Peabody's Sales Corporation, Ltd..	Walkerville, Ont.
Wm. Rutherford ..	Wm. Rutherford & Sons Co., Ltd..	Montreal, Que.

(*Continued on page* 236)

Gillette Safety Razor

The Shaving Service for Every Man Everywhere

In only one period have we sold more Gillette Safety Razors than we did during the War—and that is *since* the War!

In 1914, 1915, 1916, 1917 and 1918, sales climbed steadily,—gathering momentum until we became accustomed to doubling previous records.

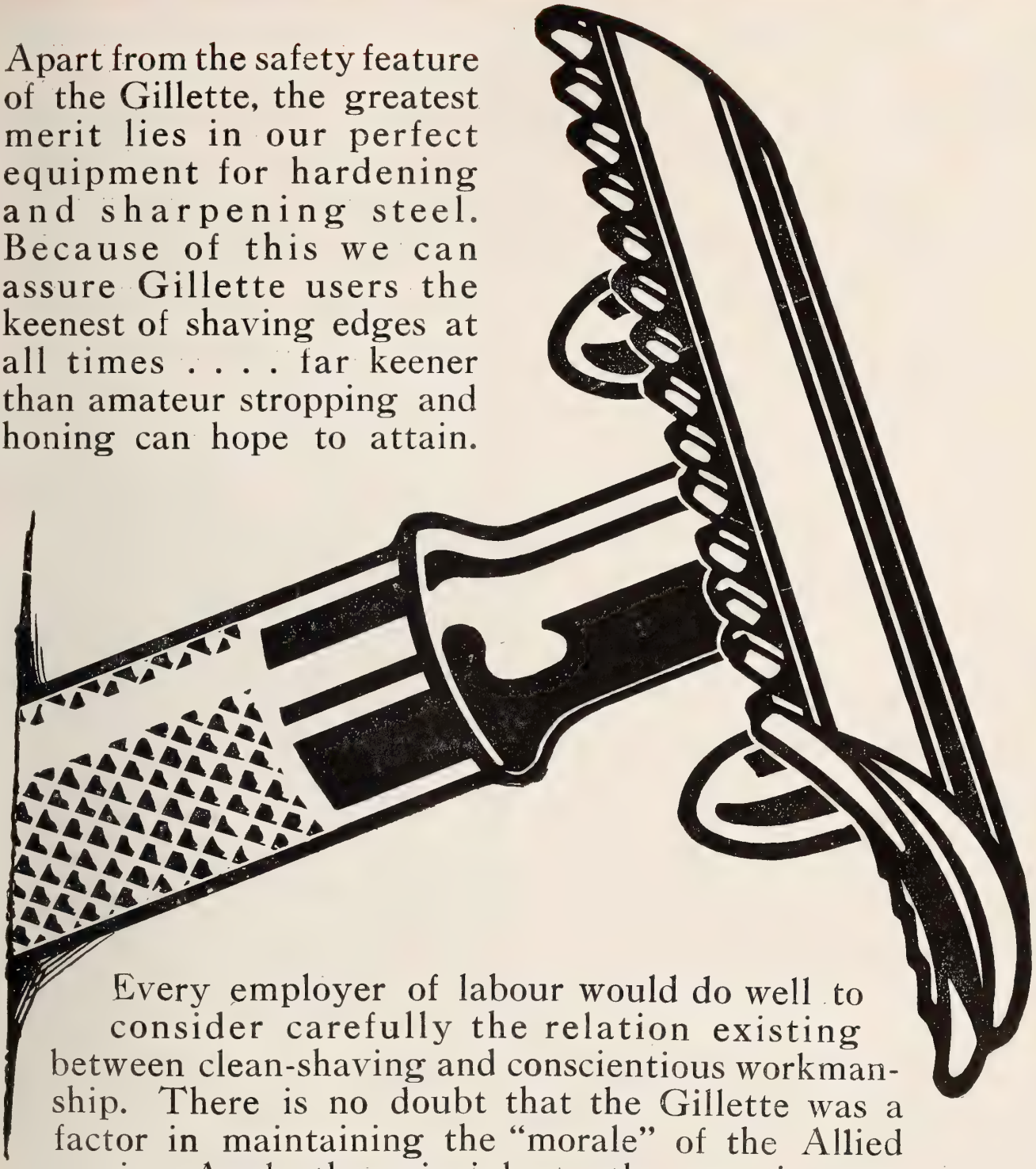
In the midst of disturbances and upheavals we continue to create records, because we have always r garded manufacturing for Export as an essential part of the Canadian program. We certainly made it a part of ours and were prepared to reap a harve t in the Export fields, as we are now doing.



No Stropping —No Honing

that is all taken care of at the factory

Apart from the safety feature of the Gillette, the greatest merit lies in our perfect equipment for hardening and sharpening steel. Because of this we can assure Gillette users the keenest of shaving edges at all times . . . . far keener than amateur stropping and honing can hope to attain.



Every employer of labour would do well to consider carefully the relation existing between clean-shaving and conscientious workmanship. There is no doubt that the Gillette was a factor in maintaining the "morale" of the Allied armies. Apply the principle to the men in your employ and note RESULTS.

Gillette Safety Razor Co. of Canada, Limited

65-73 St. Alexander Street, MONTREAL

MADE IN CANADA

TRADE Gillette MARK

KNOWN THE WORLD OVER

Officers and Committees, C.M.A.

(*Continued from page* 233)

PUBLISHING COMMITTEE

J. F. MacKay (Chairman)	Willys-Overland, Ltd.	Toronto, Ont.
W. J. Bulman	Bulman Bros., Ltd.	Winnipeg, Man.
Frank P. Megan	Wm. Davies Co., Ltd.	Toronto, Ont.
I. H. Weldon	Provincial Paper Mills Co., Ltd.	Toronto, Ont.
J. F. M. Stewart	Point Anne Quarries, Ltd.	Toronto, Ont.
C. Howard Smith	Howard Smith Paper Mills, Ltd.	Montreal, Que.

COMMERCIAL INTELLIGENCE COMMITTEE

E. Holt Gurney (Chairman)	Gurney Foundry Co., Ltd.	Toronto, Ont.
G. W. McFarland	Williams Shoe, Ltd.	Brampton, Ont.
C. G. McGhie	Welland Vale Mfg. Co., Ltd.	St. Catharines.
W. A. Jameson	W. A. Jameson Coffee Co.	Victoria, B.C.
Geo. Henderson	Brandram-Henderson, Ltd.	Montreal, Que.
W. M. Gifford	Northern Aluminum Co., Ltd.	Toronto, Ont.

INDUSTRIAL RELATIONS COMMITTEE

C. H. Carlisle (Chairman)	Goodyear Tire & Rubber Co. of Canada	Toronto, Ont.
H. H. Champ	Steel Co. of Canada, Ltd.	Hamilton, Ont.
Thos. Findley	Massey-Harris Co., Ltd.	Toronto, Ont.
J. R. Duncan	Vulcan Iron Works, Ltd.	Vancouver, B.C.
S. R. Parsons	British American Oil Co., Ltd.	Toronto, Ont.
A. Melville White	Canadian General Electric Co., Ltd.	Toronto, Ont.

According to the by-laws, it is only necessary to nominate six members of the above Committees at the Annual Meeting. At the first meeting of each Committee the six members add to their number and careful consideration is given to the necessity of providing adequate representation to all parts of Canada and to the various lines of industry.

REPRESENTATIVES TO CANADIAN NATIONAL EXHIBITION

W. C. Phillips	Frontenac Moulding & Glass Co., Ltd.	Kingston, Ont.
R. S. McLaughlin	McLaughlin Motor Car Co., Ltd.	Oshawa, Ont.
Jno. R. Shaw	Canada Furniture Mfrs., Ltd.	Woodstock, Ont.

REPRESENTATIVES TO CENTRAL CANADA EXHIBITION

H. I. Thomas	J. R. Booth	Ottawa, Ont.
T. D. McFarlane	McFarlane-Douglas Co., Ltd.	Ottawa, Ont.

REPRESENTATIVES TO THE WESTERN FAIR ASSOCIATION

A. W. White	Geo. White & Sons Co., Ltd.	London, Ont.
W. N. Manning	Sherlock Manning Piano & Organ Co.	London, Ont.

REPRESENTATIVES TO EDMONTON EXHIBITION ASSOCIATION

Geo. C. Robson	W. H. Clarke & Co., Ltd.	Edmonton, Alta.

Steamship Sailings

A Record of Ships Sailing from Montreal During July and Early August

The following announcement of proposed sailings from Montreal is made by the Canadian Pacific Railway Ocean Services in Bulletin No. 11, issued July 4. It will be found useful by manufacturers who are engaging in export business:

Vessel.	Line.	Date. (About)
TO LIVERPOOL.		
Metagama	C.P.O.S. Line	July 11
Megantic	White Star-Dominion Line	July 12
Canadian Ranger	Can. Govt. Merchant Marine, Ltd.	July 15
*Empress of Britain	C.P.O.S. Line	July 16
Corsican	C.P.O.S. Line	July 18
Tunisian	C.P.O.S. Line	July 20
Melita	C.P.O.S. Line	July 24
Rimouski	White Star-Dominion Line	July 25
Canada	White Star-Dominion Line	Aug. 2
Scotian	C.P.O.S. Line	Aug. 7
Grampian	C.P.O.S. Line	Aug. 13
Metagama	C.P.O.S. Line	Aug. 14
* Sails from Quebec.		
TO LONDON.		
Inkula	Cunard Line	July 8
Cornish Point	C.P.O.S.-Furness Line (Furness)	July 10
Batsford	C.P.O.S.-Furness Line (C.P.O.S.)	July 10
Hambleton Range	C.P.O.S.-Furness Line (Furness)	July 17
Verbania	Cunard Line	July 18
Dunbridge	C.P.O.S.-Furness Line (C.P.O.S.)	July 23
Montezuma	C.P.O.S.-Furness Line (C.P.O.S.)	July 24
War Peridot	C.P.O.S.-Furness Line (C.P.O.S.)	July 24
Mattawa	C.P.O.S.-Furness Line (C.P.O.S.)	July 24
Mendip Range	C.P.O.S.-Furness Line (Furness)	July 30
Mottisfont	C.P.O.S.-Furness Line (C.P.O.S.)	Aug. 2
TO ANTWERP.		
War Beryl	C.P.O.S.-Furness Line (C.P.O.S.)	July 29
TO GLASGOW.		
Saturnia	Anchor-Donaldson Line	July 8
Cassandra	Anchor-Donaldson Line	July 15
Montcalm	C.P.O.S. Line	July 19
Holbrook	C.P.O.S. Line	July 26
Saturnia	Anchor-Donaldson Line	Aug. 13
TO AVONMOUTH DOCK (Bristol).		
Monmouth	C.P.O.S. Line	July 13
Ocean Monarch	Cunard Line	July 18
Sardinian	C.P.O.S. Line	July 19
Copenhagen	Cunard Line	July 22
Sicilian	C.P.O.S. Line	July 24
Turcoman	Dominion Line	July 31
TO MANCHESTER.		
Manchester Mariner	Manchester Liners	July 19
TO HULL.		
Sidlaw Range	Furness Line	July 10
TO LEITH.		
Cairndhu	Thomson Line	July 18
Cairnmona	Thomson Line	July 25
Cairnvalona	Thomson Line	July 28
TO DUBLIN.		
Fanad Head	Head Line	July 20
TO BELFAST.		
Carrigan Head	Head Line	July 8
Ballygally Head	Head Line	July 18
TO ST. NAZAIRE (France).		
Alston	Canadian-French Line	July 6
TO HAVRE (France).		
Bilster	Canadian-Trans-Atlantique Line	July 18
Lord Dufferin	Canadian-Trans-Atlantique Line	Aug. 1
California	Canadian-Trans-Atlantique Line	Aug. 9
TO BUENOS AIRES AND MONTE VIDEO.		
Clan MacWilliam	Houston Lines	July 10
Canadian Miller	Can. Gov. Merchant Marine, Ltd.	July 12
TO SOUTH AFRICA. Cape Town, Port Elizabeth, East London, Durban and Delagoa Bay.		
Kwarra	Elder Dempster Line	July 15
New Brunswick	Elder Dempster Line	July 25
TO AUSTRALASIAN PORTS. Melbourne, Sydney, Auckland, Wellington, Lyttleton and Dunedin (Port Chalmers).		
Waipara	New Zealand Shipping Company	July 18
Kumara	New Zealand Shipping Co.	Aug. 2
TO BARBADOS, TRINIDAD AND HAVANA (Cuba).		
Canadian Warrior	Can. Govt. Merchant Marine, Ltd.	July 12
TO KINGSTON (Jamaica).		
Canadian Trader	Can. Govt. Merchant Marine, Ltd.	July 19
TO CHARLOTTETOWN, SYDNEY, ST. JOHNS, Newf'd.		
A Steamer	Gulf of St. Lawrence Shipping & Trading Co.	July 15

An Important Development

Progress Being Made by General Motors in Their Canadian Program

In order to keep pace with the growing demand for General Motors cars in Canada the corporation is building extensive manufacturing plants in Walkerville, Ontario. The enterprise is being incorporated as Canadian Products, Ltd., Division of General Motors of Canada, Ltd. At the outset motors and axles will be manufactured for McLaughlin-Buick, Chevrolet 490, Chevrolet FB., and Oakland Six cars, and other parts and other models will be taken on later. The construction of the plants is already well under way and temporary offices were opened on the first of July in the motor plant, where all purchasing of equipment and materials and the employment of personnel will be handled. Major Howard E. Blood is General Manager.

The Walkerville development is part of a larger Canadian program of the General Motors, evidenced by the recent formation of the General Motors of Canada, Ltd., of which Mr. R. S. McLaughlin is President, with headquarters at Oshawa, Ont. The assembling of General Motors cars will continue to be handled at Oshawa as heretofore.

When you buy Paper Look for the Watermark!

It is your Guarantee that a certain standard of quality is maintained and that you will get value.

Great West Bond

A "Made in Canada" Paper

is a low-priced paper produced in white and six colors, in all standard sizes and weights.

We recommend it as suitable for loose-leaf work, order forms and inter-office correspondence.

ENVELOPES TO MATCH

Your printer can supply you.

Carried in stock in all our warehouses.

Barber-Ellis Limited

71 Wellington Street West

ENVELOPE MANUFACTURERS AND PAPER DEALERS

Toronto Brantford Winnipeg Calgary Vancouver

Canadian Cereal and Flour Mills Company, Limited

Head Office - Stratford, Canada

QUALITY

Daily Capacity

2,500 Bbls. Flour 700 Bbls. Rolled Oats and Cereals

MANUFACTURERS OF

FLOUR, ROLLED OATS, OATMEAL, POT AND PEARL BARLEY, SPLIT PEAS, BARLEY FLOUR, OAT FLOUR

Cable Address: "Cancereal"

Codes used:

A.B.C. 4th and 5th editions. Riverside

Western Union

PARTIES DESIRING TO LOCATE

Factories or Distributing Warehouses

IN

OTTAWA CITY

should communicate with us

WE HAVE SITES ON BOTH RAIL AND WATER TRANSPORTATION.

ALSO LARGE WAREHOUSE BUILDING AVAILABLE FOR IMMEDIATE USE.

ELECTRIC POWER AVAILABLE AT REASONABLE RATES.

THE BRONSON COMPANY

OTTAWA

A Novel Wage Plan

How the Oneida Community Limited has Succeeded in Evolving a Sliding Scale of Wages

Among companies which report a successful development of a form of profit-sharing with their employees is the Oneida Community, Limited. Their wage plan, which is in force at all of their American factories as well as at the two Canadian plants at Niagara Falls, Ont., is described in some detail in a booklet recently issued. The company disclaim any idea of having worked out a general formula applicable to other industrial groups, but report that in their own case and under their own peculiar conditions, its success has been little short of phenomenal.

The scheme is not specifically one of profit-sharing, the company believing that much very substantial "sharing" should be done through the medium of wages before more ingenious and doubtful schemes are undertaken. They have aimed to reduce as far as possible inequalities of reward by increasing the minimum wage as fast as possible. Thus they have reduced, as far as possible, special privileges and have shared whatever prosperity has come to the company with everyone connected with it. Finally, they have gone very carefully into the subject of protecting standards of living. It was in connection with the latter that what is known as "The High Cost of Living Plan" was evolved. This was put into effect on January 1, 1917.

"As a basis," state the company, "we went back to January, 1916, when a general wage advance had placed our employees (as all agreed) in a position of sharing the Company's prosperity. A careful estimate applied to the living expenses of a large number of families of differing size and income, indicated that the rise of living cost in our community during 1916 was about 16 per cent. We therefore announced:

"1. That during the war, and until a period of settled prices had been reached, basic wages would be left as in January, 1916.

"2. That a separate envelope would be given to each employee containing an additional wage which for January would be equal to 16 per cent. of the regular wages.

"3. That the wages in this special envelope should change each month with the change in the average cost of living.

"4. That every 20 point change in Bradstreet's Index Number of about one hundred commodities would be assumed as indicating a change of 1 per cent. in the average cost of living, the nearest 5 points being considered equivalent to ¼ of 1 per cent. in actual practice.

"5. That each month the latest Bradstreet number when published, would be posted on factory bulletin boards, together with the change of wages indicated for the following month by this change of index number.

"The fact that more than two thousand workmen after two years of experience with the operation of this plan, agree that the 'H. C. L.' envelope has fully covered increases in their living costs, has given us great confidence in the practical value of the figures used.

"The economic result of this plan in our own industrial group has been to combine security and contentment for employees with financial safety for the institution. Factory operation during the war has been wonderfully benefitted by the spirit of enthusiastic co-operation engendered, and by the absence of those disorganizing and depressing periods of wage discussion and wage crises so inevitable where no automatic plan of adjustment is provided. Our employees have felt that however high the price of flour or potatoes might go, their wages would increase to cover the increased cost.

"It remains to note that already a substantial fall in the 'H. C. L.' percentage has taken place during the past few months, and that the attitude of those subject to this automatic reduction is reliably reported to be everything which the most enthusiastic believer in industrial partnership could wish."



Confidence!

THE confidence of a child is the confidence that knows no danger. Self-preservation is a dormant law at babyhood. Yet fear is one of the earliest instincts. It grips with the coming of stern realities. It grows with the passing years.

Children enjoy their play when fear is absent. Men work better when they know that their lives and limbs are protected. A feeling of confidence—of safety, permeates a factory that is well lighted and its machinery properly guarded.

Benjamin
PRODUCTS

Promote Industrial Safety

In hundreds of factories Benjamin Products are banishing the fear of accidents and replacing it with the confidence that reflects itself in better and more work.

Tests show that Benjamin Industrial Lighting installations mean a reduction of 25% in accidents, 12% more production and 25% less spoilage.

Benjamin Lighting Fixtures, Benjamin Punch Press Safety Devices, Benjamin Industrial Signals and various other Benjamin Products make "Safety First" more than a slogan.

The Satisfaction of Safety

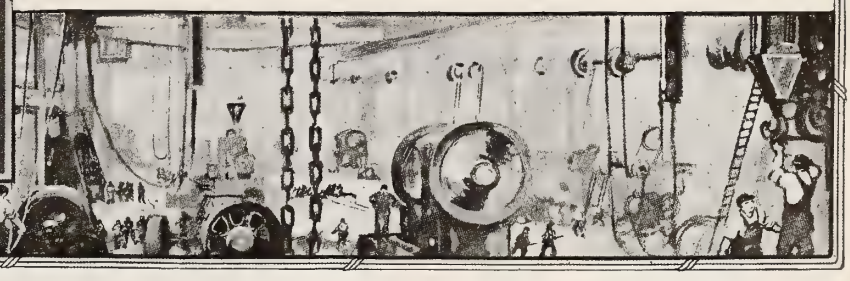
means happier and better workers. Dread, apprehension, alarm are deadly. They sap initiative—kill efficiency. Instill confidence in employees by guarding them; first, because it is a humane thing; second, because it pays. Let us explain the direct application of Benjamin Products to you.

Address

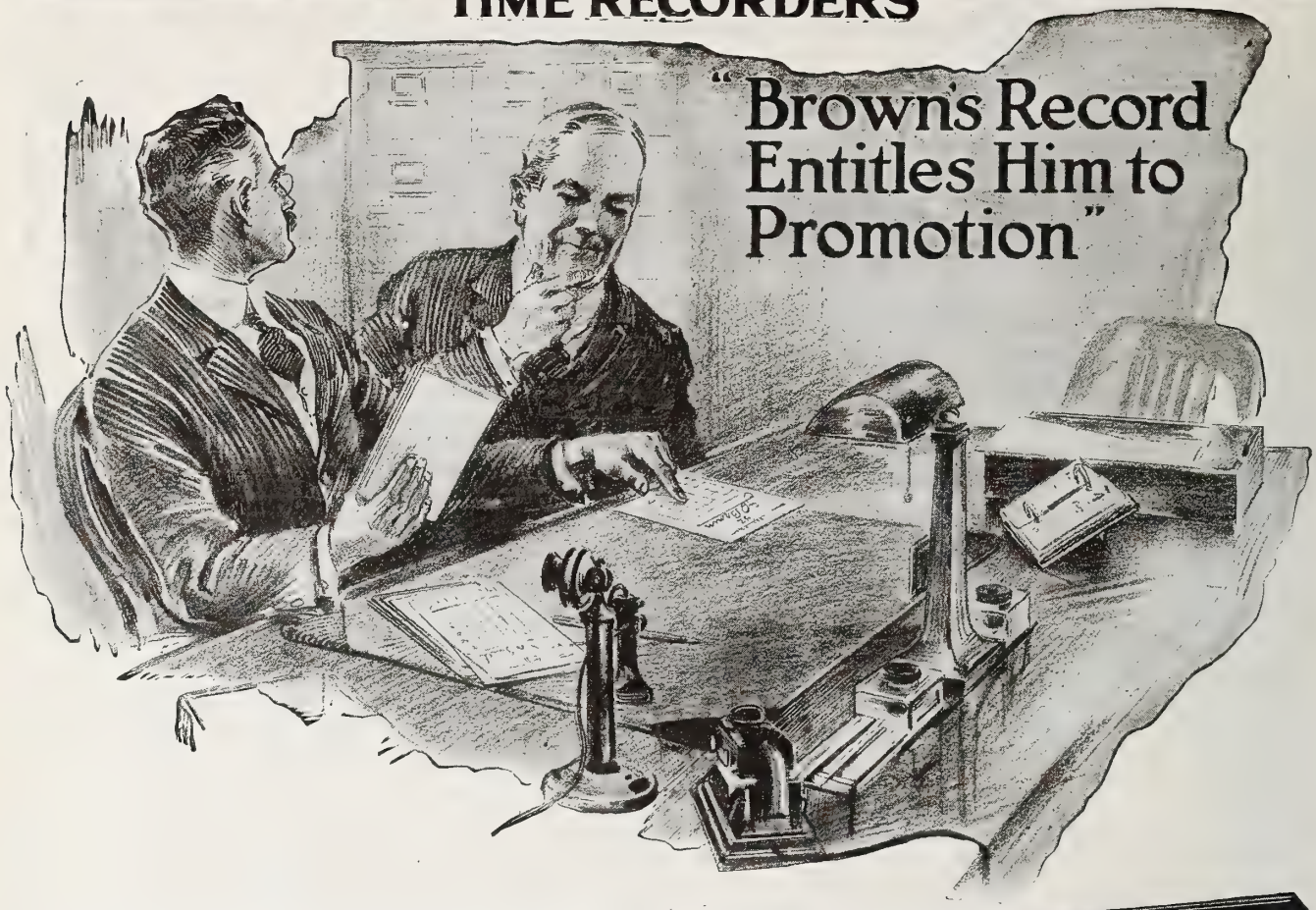
Benjamin Electric Mfg. Co. of Canada Limited
TORONTO

Benjamin Products Embrace

- Two-Way Plugs
- Wiring Devices
- Electrical Specialties
- Weatherproof Lighting Apparatus
- Gas and Vapor Proof Lighting Units
- Store and Office Lighting Fixtures
- Marine Lighting and Signaling Apparatus
- Porcelain Enameled Reflectors and Specialties
- Industrial Signals
- Automobile Specialties
- Benjamin Industrial Lighting
- Panel Boards and Cabinets
- Punch Press Efficiency and Safety Devices
- Drawings, Stampings and Spinnings in Sheet Metal
- Consulting and Engineering Service



INTERNATIONAL TIME RECORDERS



IN every plant, every business, situations are constantly developing which call for quick selection of an employee capable and worthy of going higher. A loyal, painstaking worker is needed to head a new department, or to fill a vacancy—and it is supremely important to know that the person chosen has the ingrained reliability to make good.

Under such conditions there can be no surer gauge of an employee's worthiness than his record as shown by

International Time Recorders

International records, mechanically made by the workers themselves, are complete, correct to the minute and clearly printed for reference, and for payroll accounting.

Their accuracy and completeness protect the worker, give him the standing to which he is entitled.

The same qualities fully safeguard the interests of the employer. There can be no misunderstandings or costly errors in timekeeping or payroll accounting where Internationals are used.

Know the value of your workers. Know how every minute of working time reacts upon your payroll. Know the COMPLETE timekeeping story of your business.

Internationals will tell you—*infallibly!*

There is a place in every business for an International—and an International for the place; models, electrically operated or spring driven.



International Automatic Card Recorder

International Business Machines Co., Limited

(TIME RECORDER DIVISION)

FRANK E. MUTTON,
Vice-Pres. and Gen'l Mgr.

Royce and Campbell Avenues, Toronto
Also at Montreal, Winnipeg, Vancouver

Also makers of Dayton Scales and Hollerith Electric Tabulators.



The Wrong Way—False Economy—a "bunch"

HOW would you like to stand in this "push" and wait your turn at the Time Recorder? It would peeve you some, wouldn't it? You'd quit work a few minutes earlier to make up wouldn't you? Put yourself in your employees' place. Also ask yourself who pays for the lost working time. And get this—it doesn't pay to overwork your Time Recorders. If you need two or more get 'em. Let us send you our latest literature.

International Business Machines Co., Limited

(TIME RECORDER DIVISION)

FRANK E. MUTTON,
Vice-Pres. and Gen'l Mgr.

Royce and Campbell Avenues, Toronto
Also at Montreal, Winnipeg, Vancouver

Also makers of Dayton Scales and Hollerith Electric Tabulators.



The Right Way—No Crowd—a "stream"

A Chance for a New Industry in Canada

Biological Products for Use in Veterinary Practice are for the Most Part in the Hands of Foreign Firms—The Financial Aspect of the Situation—A Good Future before these Biological Products as the Live-Stock Industry Expands

By LYMAN B. JACKES

THERE are great annual losses amongst Canadian live stock due to the activities of micro-organisms and listed under the somewhat broad heading of contagious diseases. Science alone can eradicate these losses and in the reconstruction and conservation of our live stock industry, which must come, it is well to enquire into the vast sums of money that are leaving Canada annually for the United States in payment of veterinary products, including vegetable, chemical and biological substances. The sum representing the annual sales of these imports goes well into six figures and the value of the biological output cannot be far short of three quarters of a million annually and is steadily growing. The competition towards the imported veterinary products under the heading of vegetable and chemical substances is a matter that rests entirely in the hands of the Canadian drug houses.

The manufacture of veterinary biological products is almost entirely under the thumb of five or six firms in the United States. I say almost entirely; for we must take into account the efforts of the Health of Animals branch at Ottawa which is now supplying vaccine for protection against blackleg and strangles. The output, speaking entirely in a commercial manner, of this institution is limited to two lines while the output of the foreign private firms exceeds two dozen different lines. The institute at Ottawa are conservative in that they are disposing only of lines on which they have definite experimental data of their own on which to make specific claims regarding merit.

Nature of the Products

On the other hand, it is not likely that the private foreign firms would maintain departments in their distributing houses and circulate expensive literature if their products were not enjoying an expanding patronage based to a considerable extent on merit. These products include treatment under the three headings, prophylactic, curative and diagnostic and include hog cholera, anthrax, influenza (equine), white scours, tentanus, contagious abortion, joint-ill, blackleg, canine distemper, enteritis, hepatic abscess, hemorrhagic septicæmia, infected wounds, rabies, mallein and tuberclin. These may be classed as modern products, but medicine to-day is following rapidly on the lines opened up by the disclosures of the microscope and the immediate future will see much greater developments along this phase of veterinary treatment.

Broadly speaking these products are divisible into two headings,—vaccines and serums. The characteristics of a vaccine and a serum are somewhat different, but in a general way it may be taken that a vaccine contains dead bacteria suspended in a liquor containing the toxins developed during the life of the organism. They are used chiefly as prophylactic agents or preventatives amongst animals that have not yet contracted, but are exposed to, the specific disease for which the vaccine is manufactured. The serum contains the chemical output of certain cells of the animal economy suspended in blood washed free from corpuscles. This chemical activity is stimulated by producing a toxæmia, under control, in an animal and drawing off a limited amount of the blood when conditions warrant the same. The serum has an affinity and a neutralizing faculty for toxins and is introduced into an animal that has developed symptoms of a contagious disease which will respond to the specific serum available. Some idea of the financial aspect of the sale of this material may be gathered from the fact that a small package containing three doses of prophylactic vaccine against contagious abortion (one cow or one mare being treated) sells for two dollars in Canada. On the other hand the material listed as tetanus antitoxin, used for the treatment of tetanus or lock-jaw in horses, sells for three dollars for five thousand units. The treatment for a large horse would require from seventy-five thousand to one hundred thousand units.

Requisite Equipment

The necessary equipment for the manufacture of these veterinary biological products would include a sanitary premises, open to all possible sunlight, stables, glass blowing apparatus, sterilizing apparatus, incubating rooms, and the usual equipment of a bacteriological laboratory such as glassware, microscopes and media materials. In giving the equipment any consideration it must be born in mind that there are three important stones in the foundation of success other than first class equipment. These embrace the supervision of a skilled veterinary bacteriologist, a skillful and scientific display and distribution of advertising literature and the means for an economical and rapid distribution of the finished product.

From a year to a year and a half would elapse before a successful competition could be inaugurated, as a museum of strains of organisms would be required and these should be isolated and cultivated from Canadian sources. Considerable experimental work would be necessary following this preliminary work. There is some evidence to show that certain failures of the imported products are due to the use of organisms isolated at points far removed from the outbreak which has indicated a need for the use of these products. Some means for coming in contact with diseased animals for testing and experimental work is essential.

Financial Aspects

Returning to an approximate consideration of the financial aspect, let us take the case of a vaccine against equine influenza. It is not difficult to manufacture, and a batch of some magnitude could be turned out with a splendid margin at seventy-five cents a dose; the price asked for the imported equine influenza vaccine in this country. Serums are somewhat more difficult to manufacture and standardize, but in large quantities would still yield a good margin between cost and sale, though perhaps not so great as in the case of vaccines. The Federal Government in Australia erected an institute for the manufacture of biological products in a competitive way with English and United States houses and it is reported from the best of authority that the returns in two years totalled $210,000. with a handsome margin over production cost. It is also no secret that one or two small private concerns in Australia that have been limiting their

—do you want your share —of a market of 500,000,000 people ?

in China, Indo-China, Straits Settlements, Federated Malay States, Siam, Java, Japan, Korea, Siberia, Australia, New Zealand.

—write us telling us what you produce

—we will put your products in our 25 Asiatic Sales Offices

We are exporters of :—

Metals—Iron, Steel, Copper, Brass, Lead, Zinc
Steel Ingots, Billets, Rails, Spikes, Bars, Rods
Plain and Corrugated Sheets
Wire, Wire Nails, Wire Rope, Wire Fencing
Tin Plate, Window Glass
Shovels, Axes, Saws, Files, Horse Shoes, Horseshoe Nails
Locomotives, Railroad Equipment, Electrical Supplies

Machinery—Mining, Woodworking, Steel, Agricultural

Paper—Newsprint and Writing, Wood Pulp

Foodstuffs—Wheat, Flour, Canned Goods

We are importers of :—

Crude Rubber, Tin, Sisal, Hides, Licorice Root, Raw Silk, Silk Yarn, Piece Silk, Tientsin Carpets, Bristles, Cocoanut Oil, Camphor, Brushes

We will purchase your products F.O.B. your works

NOTE

A member of our executive has recently returned from visiting our Asiatic Sales Offices. Any information you desire, will be cheerfully given gratis.

Bankers—
The Imperial Bank of Canada
Vancouver, Canada

CHARLES S. MEEK & COMPANY, LIMITED

Trans-Pacific
Export and Import Merchants
Pacific Bldg., Vancouver, Can.

also
Charles S. Meek & Co., Inc.
Seattle, Wash.

efforts to the production of anthrax prophylaxis have amassed a credit balance in the bank that is worth serious study.

Returning to Canada, it is reported from good authority that the annual sale of blackleg and strangles prophylactic from Ottawa returns from twelve to fifteen thousand dollars a year and may reach as high as twenty thousand dollars. In a recent twelve months this department was able to compete on the home market against foreign competition to the extent of one hundred and twenty thousand doses of blackleg and thirty-five hundred doses of strangles vaccine. One of the large United States houses enjoying a goodly share of the returns from this material used in Canada succeeded in enlisting the services of a former veterinary biologist of the Health of Animals branch at Ottawa. It was reported at the time that a branch laboratory was to be opened in eastern Ontario, but after six months' activities the gentleman went over to the States and joined the staff of the home laboratory. The eastern Ontario plant was transformed to a distributing house. The motive for this would be interesting to learn; but doubtless it would be that manufacture in a central depot could be carried on at less expense than the maintenance of two establishments.

There is a good future before these biological products and their commercial aspect is well worth serious study.

Course in Employment Management

Social Service Department of University of Toronto Makes an Interesting Announcement

An announcement, which should have interest for many of the readers of INDUSTRIAL CANADA, is just being made by the Department of Social Service of the University of Toronto. It is to the effect that in September a short course on Employment Management, lasting from three to four weeks, will be given at the University.

Instruction will be given daily, one hour being devoted to each of the three main divisions into which the course falls. These are:

(1). *Personnel Management; Principles and Practice;* including methods of securing, selecting, promoting and transferring employees, trade tests and rating scales, job analysis and personnel specifications, organization and work of a personnel office, labor turnover and its reduction, etc.

(2). *Industrial Psychology*: The application to business of modern psychology, ways of learning and of teaching business processes, intelligence tests and their application to industry, influences making for harmony or disharmony, cooperation or antagonism within industry, etc.

(3). *Economic Principles and Methods involved in* (1) and (2). Causes which have brought about the present economic situation, wage determination (various plans), labor problems and proposed solutions, labor organizations, labor laws, etc.

The course will be given both afternoons and evenings if the enrolment is sufficient. Both principles and practice will receive detailed discussion throughout, and opportunity will be provided for the application of the knowledge acquired.

The Department is fortunate in having secured the services of two recognized experts in this new and important subject, viz., Lieut.-Col. John J. Coss of Columbia University, who both as a teacher of this subject and as a member of the War Industries Board of the United States, has been intimately connected with the theory and the practice of personnel management, and Dr. E. K. Strong of the Carnegie Institute of Technology, Pittsburg, who, besides direct business experience has had unusual opportunities for studying the application of psychology to industry, most recently as a member of the Committee on the Classification of personnel in the U.S. army. He is also professor of Vocational Education at the Carnegie Institute, and has contributed a number of valuable publications to the subject of industrial psychology.

It is hardly necessary at the present day to point out the importance of employment management. The growth of the profession of employment management is due to the realization of the fact that the conditions under which men and women work in industry—the conditions under which they are hired, tested, and fitted to their respective jobs; the conditions on which their efficiency, their interest and cooperation depend; the conditions which ensure their health, stability, and general welfare as workers are of the first importance, even from the economic as well as the social point of view. If it requires a trained and qualified executive to handle sales or advertising, no less does it require a trained and qualified executive to supervise, adjust and direct the personnel. The latter training should be of a broader and more liberal character. It cannot be obtained merely from the experience of other business activities, or even from the routine functioning of an ordinary employment department. It is, therefore, best given through a recognized educational authority. The Department of Social Service of the University of Toronto has been requested to provide a beginning in such instruction, and to that end is offering, for the first time in Canada, a short course of specialized training.

A detailed programme of the course will be issued at the end of July. This and any other information can be obtained on request sent to the Secretary, Department of Social Service, University of Toronto. A small fee is charged for the course. Applications for enrolment should be sent to the same address.

Extension to Paper Mill

New Finishing Room and Storage and Shipping Building for Laurentide Co.

The Laurentide Company, Limited, of Grand Mere, Que., is making additions to its plant. These consist of a new finishing room, a steel bridge and a storage and shipping building. The work has been started on the new finishing room and the company will proceed soon on the erection of the elevator shaft and the construction of the steel bridge and shipping building. The purpose of these improvements in the company's plant is to have the best facilities possible for the handling of their paper from the paper machines to the railroad shipping point in the yard.

As described by the *Contract Record*, the first building, which is the finishing room, has concrete foundations, brick facing and steel superstructure. Inside of the building there is room for the elevator shaft. This shaft is about 120 feet high. The capacity of the elevator will be about six 90-inch paper rolls or twelve 45-inch rolls. The paper will be delivered to a steel bridge connecting the elevator to the storage and shipping building. Its length is 170 feet by 31 feet wide. The last ninety feet of the bridge will contain scales for weighing the paper rolls and will provide space for wrapping them. This section is to be called the wrapping aisle. The bridge is of the lattice braced girder type, and is supported on a central column of steel resting on a concrete pier.

The new storage and shipping building will be 92 feet wide by 280 feet long. Its foundations will be of concrete, the walls of solid brick and the superstructure of steel. The flooring will be of concrete on steel I-beams. The building is so designed that the maximum trucking space will be approximately sixty feet in length. An electric hoist will be installed to handle the paper rolls to the cars.

BY-PRODUCT COKE
SULPHATE of AMMONIA

"HAMILTON" PIG IRON

Basic Malleable Foundry

STEEL & IRON BARS
OPEN HEARTH STEEL SHEETS

FORGINGS

Car Axles
Shape and Drop Forgings
Carriage and Automobile Hardware

POLE LINE HARDWARE

(Black and Galvanized)

Pole Steps
Cross Arm Braces
Guy Clamps
Guy Rods

SCREWS

Steel, Brass and Bronze Wood and Machine Screws

NAILS, SPIKES & RIVETS

Wire
Cut
Boat and Horse Shoe Nails
Railway
Pressed and Drift Spikes
Tacks
Shoe Nails
Steel and Copper Rivets
Burrs

Purchase the Products of Canadian Mills

TO uphold the Glory we have jointly earned—to honor our noble dead—to comfort the wounded, and extend to the men returned the hand of prosperous welcome, we must cast aside all forebodings and face the future with unbounded courage and confidence and, without a shadow of doubt, declare to the World that this Nation, which was so quickly and successfully transformed to a War basis, can be depended upon to revert to Peace conditions with equal success. The buyer and seller must recognize their duty to the Nation and co-operate fully to the end that all products that can be produced in Canada by Canadian workmen shall not be purchased elsewhere.

OUR Duty is plain; Canada with Canadian labor and capital can produce, manufacture and distribute products sufficient to keep the wheels of industry turning to the limit. The song of Prosperity and Happiness should ring out all over the land. Let us sincerely pledge to the extent of our needs, to purchase materials produced in Canada by Canadian Workmen, and the result of our efforts will return to us the Blessings of a Prosperous and Happy Nation.

THE
STEEL COMPANY OF CANADA
LIMITED

HAMILTON MONTREAL

RAILROAD TRACK MATERIAL

Angle Bars
Track Bolts
Tie Plates
Tie Rods
Spikes

WROUGHT PIPE

Black Pipe
Galvanized Pipe
Nipples
Couplings

LEAD PRODUCTS

Lead Pipe
White Lead
Shot
Putty

WIRE

Steel & Brass
Copper & Bronze
Heavy and Fine
Bright Annealed
Coppered
Galvanized and Tinned
Stranded
Steel and Copper Cable
Clothes Line
Staples
Barb Wire
Woven Wire Fencing
Fence Gates

Bars
Blooms
Billets
Wire
Wire Rods
Sheets
Horse Shoes
Angles
Channels
Plow Beams

WE DO
CONTRACT WORK

Machine Shop
Blacksmith Shop
Wood Pattern
Sheet Metal
Planing Mill
Grey Iron Castings

Canadian Rumely Co., Limited
48 Abell Street, Toronto

We give SERVICE

SPECIAL CEMENTS
for
SPECIAL PURPOSES

Acid Resisting
Stove
Furnace
and
Retort

ASBESTOS CEMENTS

Stove—Boiler
PUTTIES

G. F. STERNE & SONS
Brantford - - Canada

Merchandise Marks

Regulations Issued by the British Customs Regarding Goods Imported Into the United Kingdom

The following memorandum regarding merchandise marks was issued by the British customs:

1. Foreign goods imported into the United Kingdom which do not bear any marks whatever, either on the goods themselves or on the packages or wrappers containing them, are not required to bear any qualifying statement or indication, such as "Made abroad," "Made in Japan," etc.

2. Foreign manufactured goods bearing a name or trade mark, being, or purporting to be, the name or trade mark of a manufacturer, dealer, or trader, in the United Kingdom, must have that name or trade mark accompanied by a definite indication of the country of origin of the goods. The name of the country is a sufficient indication, without the words "Made in," if a name or trade mark only appears, e.g., "John Smith, Holland," would be satisfactory. If such a mark as "John Smith, Sheffield," is used, then the qualification must be "Made in Holland," or similar wording.

3. If foreign imported goods bear the name of a place identical with, or a colourable imitation of, the name of a place in the United Kingdom, the name should be accompanied by the name of the country in which the place is situated. Thus Boston, in Massachusetts, should be accompanied by the name "United States," or by the initials "U.S.A."

4. If a trade description includes the name of a place, and the goods on which it appears are not the produce of that place, or of the country in which it is situated, the trade description must be accompanied by a statement indicating the actual country of production. For instance, a wine, the produce of California, and described as "Sherry" (which word is derived from the name of the place Xeres), should have that description accompanied by the statement "Produced in California," or should be described as "Californian Sherry." An exception to this rule is made in cases where the name of a place in a trade description is indicative merely of the character of the goods, and is not calculated to mislead as to the country of origin. Thus such a description as "Brussels Carpet," or "Portland Cement" need not be accompanied by a statement of the country of actual production, unless as required under paragraph 2 above.

5. Trade descriptions in the English language applied to foreign goods imported for home use from non-English-speaking countries are not regarded as indirect indications that the goods are of British or Irish origin, unless the officers have good ground for considering that such trade descriptions are specially designed to convey, and do in fact convey, an impression of British or Irish origin for the goods.

Trade descriptions on imported goods in a foreign language, which is not that of the country from which the goods are imported, must be accompanied by a statement of the actual country of production of the goods, e.g., "Made in Portugal."

6. As regards watches, any mark on the case is deemed to extend to the watch. If, therefore, a watch case is made in this country, and bears any statement or indication of such origin (as, for instance, a British assay mark), and the watch itself is made in Switzerland, then there must appear either—

(*a*) in close proximity to the assay mark a conspicuous statement that the watch is of foreign make, or

(*b*) on the dial and also on the top or bottom plate of the movement, visible between the bridges, an indelible statement or indication that the watch is of Swiss origin.

7. All qualifying statements or indications must be distinct, in equally conspicuous and indelible characters with, and in close proximity to, the marks they are intended to qualify.

8. Marks on samples or patterns, whether of British or foreign manufacture, are not required to be accompanied by any qualification, provided such samples or patterns are valueless in themselves, do not form whole or complete articles, and can be readily distinguished as samples or patterns.

Mr. Robt. K. Newton, formerly Assistant Manager of Sales, at Brown's Copper and Brass Rolling Mills, Limited, New Toronto, Ont., was appointed to the position of General Sales Manager on July 1st.



FOR OVER SIXTY YEARS the predominating principle that has governed us in all our business dealings and one that has helped us to win and hold the confidence of the general public and the trade has been the policy of "Square Dealing." Absolute honesty of purpose and good service, backed by goods of merit, have combined to place us in the front rank as manufacturers of high-class brushware.

THE BOECKH TRADE MARK

the symbol of quality and dependability is zealously guarded by us, and any product that bears our imprint carries also with it a guarantee of the best workmanship, and the best of material.

Satisfactory service—quality—the best, and reasonable prices have created the demand for Boeckh's Brushes that dealers should make use of to their advantage.

Your enquiry regarding our products will receive our immediate and prompt attention. We will be pleased to supply you with display cards, advertising matter, etc. Write us in connection with your requirements.

THE BOECKH COMPANY, LTD.

TORONTO - CANADA



Consider Them As an Investment

Consider these new "Office Specialty" Counter Height Filing Sections in the light of an investment that pays you real dividends in actual money saved.

In the first place "Office Specialty" Counter Height Filing Sections serve all the purposes of high-grade filing cabinets. And in addition they combine the function of an office counter. That's where your first dividend comes in—you save, in first cost, the price of a counter.

On top of this there's your dollar-and-cents saving represented by the floor space conserved. And at the prevailing rate of rentals this saving means quite a repectable figure on your bank balance.

COUNTER HEIGHT SECTIONS

If this were all the service these Counter Height Filing Sections performed you would even then be getting double value for your money.

But they do more.

They act as department divisions in an office when stacked together as shown in the illustration.

Any record in his department is available to the executive in half the time it would take the filing clerk to walk to the filing room.

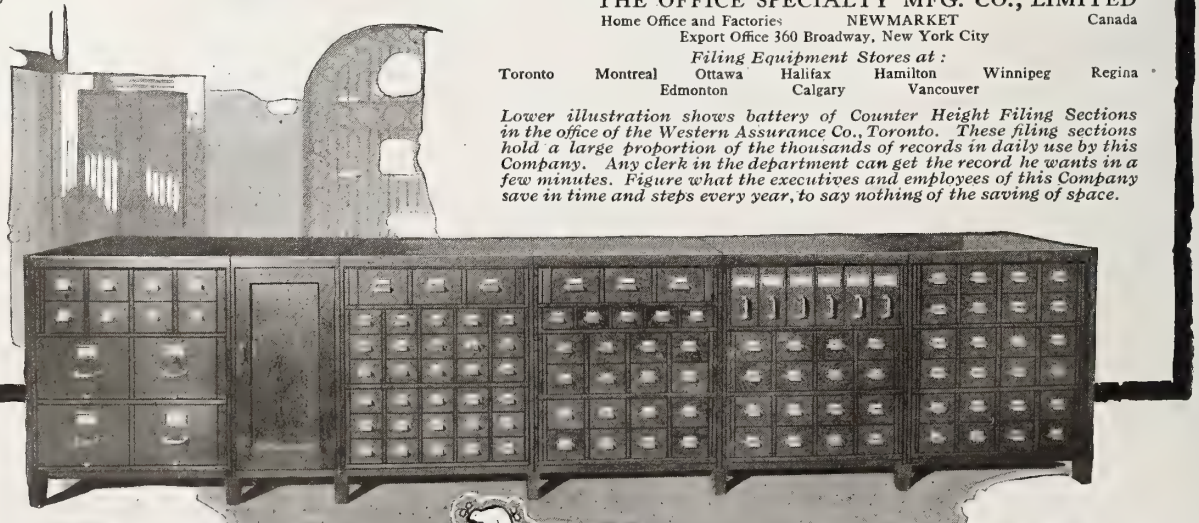
So besides the known savings they effect in space—and consequently money—they enable your clerks to get papers and records for you quickly—they save your time and the time and energy of your staff.

Tell your stenographer to type a memo today for descriptive folder "The Conservation of Space in Your Office." It's free.

958

THE OFFICE SPECIALTY MFG. CO., LIMITED
Home Office and Factories NEWMARKET Canada
Export Office 360 Broadway, New York City

Filing Equipment Stores at :
Toronto Montreal Ottawa Halifax Hamilton Winnipeg Regina
Edmonton Calgary Vancouver



Lower illustration shows battery of Counter Height Filing Sections in the office of the Western Assurance Co., Toronto. These filing sections hold a large proportion of the thousands of records in daily use by this Company. Any clerk in the department can get the record he wants in a few minutes. Figure what the executives and employees of this Company save in time and steps every year, to say nothing of the saving of space.

OFFICE SPECIALTY
FILING SYSTEMS

Cable Address : "Timber" Established 1865 Post Office Drawer 500

The British Columbia Mills Timber & Trading Company

Head Office - Vancouver, B.C.

Branches : Hastings Saw Mill, Vancouver. Moodyville Saw Mill, Burrard Inlet
Sales Office for Northwest: 603 McIntyre Block, Winnipeg, Manitoba

MANUFACTURERS AND SHIPPERS BY RAIL AND WATER OF

Fir, Cedar Spruce and Hemlock Lumber



Lath Pickets Shingles Mouldings Etc.

Loading timbers at the Hastings mill wharves, the large proportion of them being from 65 to 110 feet long, and from 12 x 12 to 24 x 24 inches square. Cargo over 4,000,000 feet board measure. As far as is known this is the largest cargo on any one vessel cut and loaded by any one mill on the Pacific Coast.

Rail Shipments to All Parts of Canada
Spars and Long Timbers a Specialty

For over Fifty Years ***THE HASTINGS SAW MILL*** has been manufacturing and Shipping Cargoes to U. K., South Africa, Australia, South America, China, Japan, and other foreign countries.

ENQUIRIES SOLICITED PROMPT DELIVERY
OUR TRADE-MARK H.S.M. IS A GUARANTEE OF GRADE
VESSELS CHARTERED TIMBER LANDS FOR SALE

Codes Used : A 1, A B C, Watkins, Telecode, Western Union

AMONG THE INDUSTRIES

Under this heading are published items of news of current interest concerning the activities of Canadian manufacturers. Information about changes of interest, enlargement of plants, and plans for future developments are welcome, and are published free of charge, provided they should not be properly classified as advertisements

***Items prefixed with an asterisk are based on official information received in each case from the companies mentioned. Other items, while secured usually from reliable sources, have not the same authoritative origin**

BRITISH COLUMBIA.

Kamloops.—The Kamloops Board of Trade is looking into the possibilities for establishing a woollen industry in Kamloops for the manufacture of yarn and cloth from wool produced in British Columbia.

New Westminster.—The Beaver Cigar Factory, of New Westminster, has transferred its headquarters to Vancouver. The Vancouver plant is located on Cambie Street, and the staff of the New Westminster plant will work in Vancouver until a smaller building is found for continuing the New Westminster plant.

A number of returned soldiers, backed by considerable capital, are planning the establishment of a new industry at New Westminster, which will import and handle India and Oriental hardwoods, and will erect a large new factory in which these imported hardwoods will be made up into artistic and durable furniture, states "Industrial Progress" for June. The company proposes to import especially teak and ebony from India, which can be laid down at New Westminster at from $70 to $100 per thousand feet, and can be retailed at $300 per thousand feet and even higher when made into furniture. It is believed that the enterprise will develop into a large manufacturing industry employing many expert workmen.

Queensborough.—The British Columbia Manufacturing Company have, after a year's effort, succeeded in getting a permit from Ottawa to build its new export plant on the site leased from the Provincial Government at Queensborough, on what was formerly the provincial jail farm. The plant will be entirely equipped for the export business. There is at present stacked up at the plant some $20,000 worth of box shooks, destined for Australia and awaiting ship space. The plant will be in competition with plants in Japan and in the Baltic, but the present tonnage rates makes the British Columbia trade prohibitive in competition with Japanese trade.—"Industrial Progress."

Sidney.—The Sidney Rubber Roofing Co. of Sidney, B.C., is considering plans for additions to the present plant, to cost approximately $125,000.

Vancouver.—The Canada Carbide Co. contemplate the establishment of a plant in this city.—Robertson-Hackett Saw Mills, Ltd., will erect an electric-driven planing mill at False Creek at a cost of $40,000.—Under the name of the Canadian Western Cordage Co., returned soldiers of Vancouver have formed a company and will erect a plant and machinery to cost about $250,000, on the banks of the Frazer River at New Westminster. The intention is to make rope and twine.

The Electric Manufacturing Co., Alexander Street, have completed arrangements for the erection of a new factory on a site which has been leased from the Harbor Commission on Industrial Island. The factory building proper will be 110 x 50 feet in size, of heavy mill construction, covered with galvanized steel. Extra full equipment of machinery and plant has been ordered for the manufacture of heavy type slate back switches, and also the new type of externally operated switches.

Architects Gardiner & Mercer, Vancouver, have been receiving tenders for the construction of a new plant and buildings for the Mainland Engineering Co., to be erected on Coal Harbor. Work has already been done on the pile-driving and foundations and work on the plant proper will start immediately.

The Rothert Process Steel Co., of Seattle, has applied to the Provincial Government, requesting it to guarantee bonds amounting to $300,000, on condition that the company shall use the money to move its plant from Seattle to Vancouver or its vicinity, and shall purchase and erect other furnaces and machinery which, the company claims, will place it on a profit-earning basis. The company is making high-grade tool-steel at its Seattle plant from the titaniferous magnetites of Texada Island, in an electric furnace, and it claims it is producing incomparably the best tool-steel in the world.—"Industrial Progress."

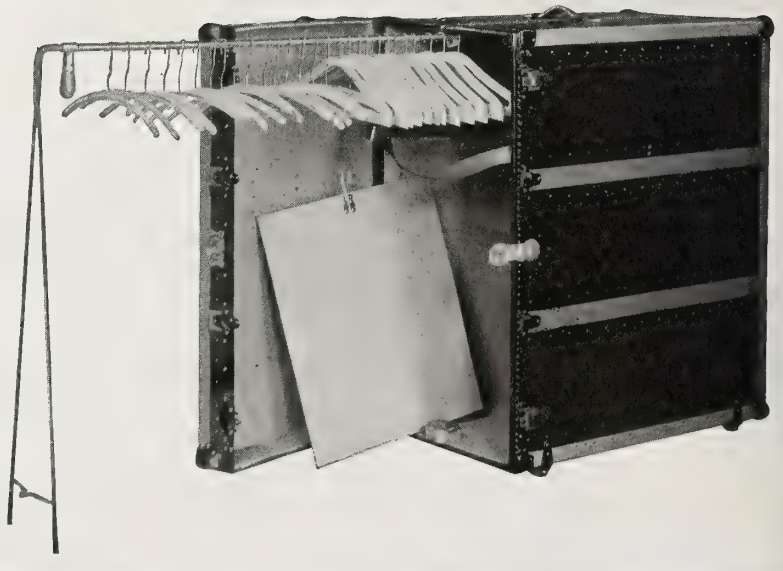
SHOW YOUR SAMPLES UNWRINKLED

WARDROBE TRUNKS

for Suits, Coats, Dresses and Waists

WE MAKE
SAMPLE TRUNKS
AND CASES
FOR EVERY
BUSINESS

Let us know your needs and get our prices.



The M. Langmuir Mfg. Co. of Toronto Limited



"MORROW"

Whenever you see this name on an original container of Set Screws, Cap Screws, Twist Drills, Files, you know that these manufactures are produced by a firm of highest integrity, and that what you buy from them is always the best of its kind obtainable anywhere.

"These Lines are Carried by Reliable Jobbers"

John Morrow Screw & Nut Company, Limited

INGERSOLL ... CANADA

ALWAYS SPECIFY "MORROW'S"

Made just a little better than seems necessary

Carhartt Overalls

FOR MEN AND WOMEN

Hamilton Carhartt Cotton Mills Limited

"TORONTO UNIT"

TORONTO MONTREAL WINNIPEG VANCOUVER and LIVERPOOL, ENG.



Try Chiclets after smoking

Just when the stress of work is most severe—try a Chiclet—dainty, candy-coated, with a *zip* of peppermint. It relieves the tension.

SMOKERS, try one of Adams Chiclets when you've finished smoking — or between smokes. You'll find the change pleasant—and beneficial—sweetens the breath also.

CHICLETS are sold everywhere. Next time you see Chiclets displayed leave a nickel and get ten Chiclets.

MADE IN CANADA

—an Adams product, particularly prepared

ADAMS Chiclets CANDY COATED GUM

Canadian Chewing Gum Co., Limited
Toronto, Winnipeg, Vancouver

The British Columbia Hardwood Floor Co. will start work immediately at Granville Street, Vancouver, on the construction of a new factory and storage building, covering a ground area of 25 x 120 feet at 2617 Granville Street. It will be a two-story frame structure.

The Vancouver Shipyards, Ltd., are making extensive improvements to their plant on Georgia Street West, included in which will be the erection of a frame building 300 x 30 feet in size, at a cost of $4,000.

Good progress is being made with the erection of the new Coca-Cola building on Richards Street, Vancouver, which, it is expected, will be ready for occupancy in the early summer.

A building to be used exclusively for manufacturing purposes is being erected on Richards Street, Vancouver, by A. E. Solloway, covering an area of 25 x 110 feet, of brick and tile construction.

The shipbuilding plant of the Harbor Marine Co., Ltd., on the Songhees Reserve, is practically completed, and the commencement of shipbuilding operations will be under way as soon as the necessary steel is delivered. There will be two shipways, which will be served by a huge travelling crane, operated on tracks running between the two shipways. This crane will be able to transfer plates from the plate yard on the high bluff to any place within a radius of the two ships.

MANITOBA.

St. Boniface.—The Clare Milling Co. will shortly invite tenders for a $375,000 flour mill.

NEW BRUNSWICK.

Chipman.—A serious fire visited the sawmill of the Sayre & Holly Lumber Co. recently, when damage was done to the extent of $140,000, and between two and two and a half million feet of lumber valued at $80,000 went up in smoke. The lumber is covered by insurance, but the mill, valued at $60,000, is only about half covered. It is understood that the company will rebuild on the same site. The fire did not affect the engine and boilers, which are contained in a fire-proof building, and a steady stream of water, which the pumps poured on the surrounding structures saved the village of Chipman.

Milltown.—The St. Croix Cotton Co. has purchased the water privilege at Salmon Falls, and intends this summer to build a power plant in Calais to run the entire plant by electricity. It is understood that this mill has under consideration a large addition to its factory.

Moncton.—A new factory, to cost in the neighborhood of $35,000, will be erected for A. Humphrey & Son, Ltd.

Newcastle.—The fire which broke out in the lumber storage of the Edward Sinclair Co. mill, near Newcastle, did damage amounting to about $150,000.

NOVA SCOTIA.

Bear River.—The firm of Clarke Bros., Ltd., has been reorganized under a Dominion charter, and will embark in the sulphate pulp business. The firm has been in business for thirty-five years, originally as a partnership of W. G. Clarke & W. W. Clarke. Lumber, sash, doors, wood finish and hardwood products of various kinds have been manufactured. A sulphate pulp mill of 10,000 tons annual capacity will now be erected, and an additional sawmill of six million feet added to the existing plant. A. G. McIntyre, a prominent figure in the pulp and paper industry, becomes president of the company and managing director of the pulp division.

ONTARIO.

Bancroft.—The Canada Marble Co. contemplate erection of a plant in this town. Estimated cost, $500,000.

Brockville.—The Board of Trade has purchased twenty-four acres of land, which it intends to dispose of to United States manufacturers for factory sites.

Elmira.—Contract has been let for a factory addition and warehouse for the Great West Felt Co.

Goderich.—Plans are prepared for $15,000,000 steel plant for Lake Huron Steel Corporation. The harbor will be enlarged and dredged; Hydro power line will be built and extensive building operations are planned.

The Convertible Tractor Corporation of St. Paul, Minn., may erect a Canadian branch here.

Guelph.—Among recent building permits was one for $45,000 for addition to the Partridge Rubber Co.'s factory and one for $100,000 for the new factory of the Northern Rubber Co.

Haileybury.—Tenders will shortly be called for erection of foundry and machine shop for the United Iron & Machinery Co. Estimated cost, $100,000.

Hamilton.—Plans have been prepared for a modern factory building for the National Paper Goods Co., Ltd.—The Nukol Fuel Co. contemplate the erection of a $40,000 factory.—The Industrial Varnish Co. will erect a factory here at a cost of $100,000.

The Quaker City Chemical Co., with headquarters at Philadelphia, will erect a branch factory in this city. The first building to be erected will be 100 ft. x 60 ft., and three storeys high. C. Herbert McKay and John P. McKay have charge of building operations.

Kitchener.—Mr. C. Rieder, who recently became president of the Ames-Holden-McCready Co., wholesale shoe manufacturers, has been in Kitchener recently, and made the announce-



"Balloon" Fly Traps
Many Varieties of Vermin Exterminators

E. T. Wright Co., Limited

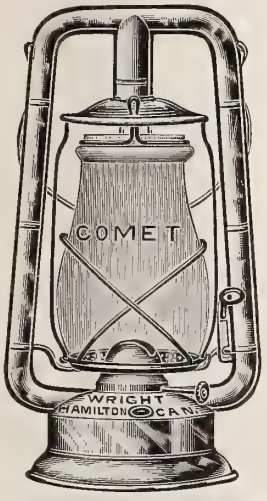
Hamilton - Canada

EXPORT MANUFACTURERS OF



Bird Cages
Brass and Japanned. For Canaries, Parrots, Squirrels, Mice and Small Pets

Lanterns, Bird Cages, Oilers, Stamped, Pieced and Japanned Tinwares
Victor Sifters, Lunch Boxes, Fly Traps, Asbestos Mats, etc.



We make everything we export, and export only what we make.
Most of our export lines nest snugly, and ship in compact space.

Goods quoted F.A.S. Seaboard. Packages free.

Cable address: WRICO, HAMILTON

Agencies in
England, Scotland, Australia, New Zealand, British West Indies, China, South Africa, France

Write for our complete export price list with classified cable code



"Canuck" Bread Mixers
Labor-Saving Kitchen Devices of All Kinds

Canada's Largest Cap Makers

Showing the Largest and most varied range of

Cloth and Tweed HATS and CAPS

for

MEN

WOMEN

and

CHILDREN



Eastern Hats and Caps

are sold in

5,000 STORES

from Coast to Coast

Factory and Head Office

TRURO, N.S.

Eastern Hat & Cap Mfg. Co., Limited

Sample Rooms at Montreal, Toronto, Winnipeg, Vancouver, Regina, Sask., St. John, N.B.

ARNETTIZE YOUR STORE

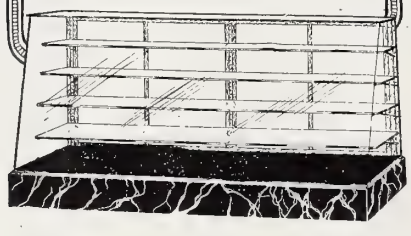
Goods Well Displayed Are Half Sold

Where's your stock kept—in drawers under the counter or directly under the eyes of the buying public in an

ARNETT SHOW CASE

—The "Show case with a purpose." Let us send you our catalogue and tell you something of our service—Let us Arnettize your store.

THOMAS LEWIS ARNETT
SOURIS, MANITOBA



STERLING SILVER

TEAWARE TOILETWARE
FLATWARE SOUVENIRS
NOVELTIES TROPHY CUPS
MEDALISTS

E.P.N.S.

TEAWARE
HOLLOW-WARE

RICH CUT GLASS

Roden Bros.

LIMITED
MANUFACTURERS

345 Carlaw Ave. Toronto, Canada

ment that the property of the late Ward Bowlby, consisting of about five acres of land on King Street West, has been purchased for manufacturing purposes. Mr. Rieder declined to divulge the nature of the industry to be erected, but it is generally understood that it is proposed to erect a large and up-to-date plant for manufacture of tires and other rubber goods. Mr. Rieder intimated that building operations would commence within a few weeks, and that the new factory would be one of the largest of its kind in Kitchener. He declared that he looked upon Kitchener as the rubber centre of Canada, and this was why it was decided to locate the new plant here.

Leamington.—Contract has been let for a manufacturing plant and power house, costing $125,000, for the Imperial Tobacco Co.

Listowel.—Canadian Flax Mills, with offices at 96 King Street East, Toronto, plan erection of a flax mill here.

London.—The Republic Motor Truck Co. are having plans prepared for a $500,000 plant at London.—Tenders were received last month for the erection of a $250,000 factory for the Holeproof Hosiery Co. of Canada, Ltd.—An addition is to be made to the factory of the Murray Shoe Co., Ltd., Richmond Street.

Mount Forest.—An addition, costing about $10,000, will be made to the foundry of Ernest Bros.

Oak Ridges.—Site has been secured on Pharmacy Avenue for the erection of a factory by the Gendron Manufacturing Co., and work of excavation will commence soon. The firm will instal its own water mains from the lake to the building, and pumping plant, and asphalt sidewalks.

Oshawa.—Only eight votes were cast against the by-law to grant the Ontario Steel Products Co., of Gananoque, a fixed assessment of $20,000 for ten years, on the factory buildings they propose to erect on the Rider property and premises, which they have purchased on the Ritson Road, north of the C.N.R., while 604 property owners voted for it, or nearly 99 per cent.

The General Motors of Canada, Ltd., have announced part of their extension policy. A new four-storey plant, 400 feet x 80 feet, will be erected to assemble Oldsmobiles and trucks. A central shipping building, 200 feet x 80 feet, with a capacity of fifty-six freight cars under roof, will be erected, so that inclement weather will not handicap shipping operations. An enamelling plant, 300 feet x 80 feet, three storeys, equipped with the most modern facilities for efficiency and mammoth production, will also be erected. In addition to the above, extensive alterations and improvements will be made on the present plant.

Ottawa.—A new $75,000 factory is to be erected by the Beach Co., Spencer Street.

Owen Sound.—The Dominion Oil Co. will establish a modern plant in this city.

St. Catharines.—Contract has been let by the Imperial Oil Co. for a plant costing about $20,000.

Sault Ste. Marie.—Work will begin at once on extension of the Algoma Steel Corporation's rail mill.

Tillsonburg.—An addition is being made to the factory of the Tillsonburg Shoe Co., Ltd.

Toronto.—An addition is to be made to the factory of the Cowan Co., Ltd.—The Wm. Wrigley, Jr., Co. also contemplate making an addition to their factory on Carlaw Avenue.—A $60,000 plant is spoken of for the Dodge Bros., manufacturers of automobiles.—Contracts have been let for an addition to the factory of Wm. Neilson, Ltd., 277 Gladstone Avenue.—The Canadian Ice Machine Co., Ltd., 82 Chestnut Street, have let contracts for a $40,000 plant.—An addition is to be made to the factory of the Goodyear Tire & Rubber Co. at New Toronto.—A $65,000 factory building is being erected for Gelber Bros., 217 Richmond Street West.—W. J. Keen, 259 Spadina Avenue, is calling for tenders for the erection of a factory.

Leo. Brilliant has formed the Brilliant Necktie Co., and is now manufacturing at 80 Harbord Street, having installed a number of the latest Brinton machines for the production of knitted ties and scarfs.

The Holden-Morgan munition plant on Coxwell Avenue has been sold to the John Wood Mfg. Co. of Conshohocken, Pa., which will employ three hundred men in the manufacture of range boilers. The initial output will be 200 boilers a day.

Alterations and additions are to be made to the plant of the Blatchford Calf Meal Co., of Pelham Avenue.

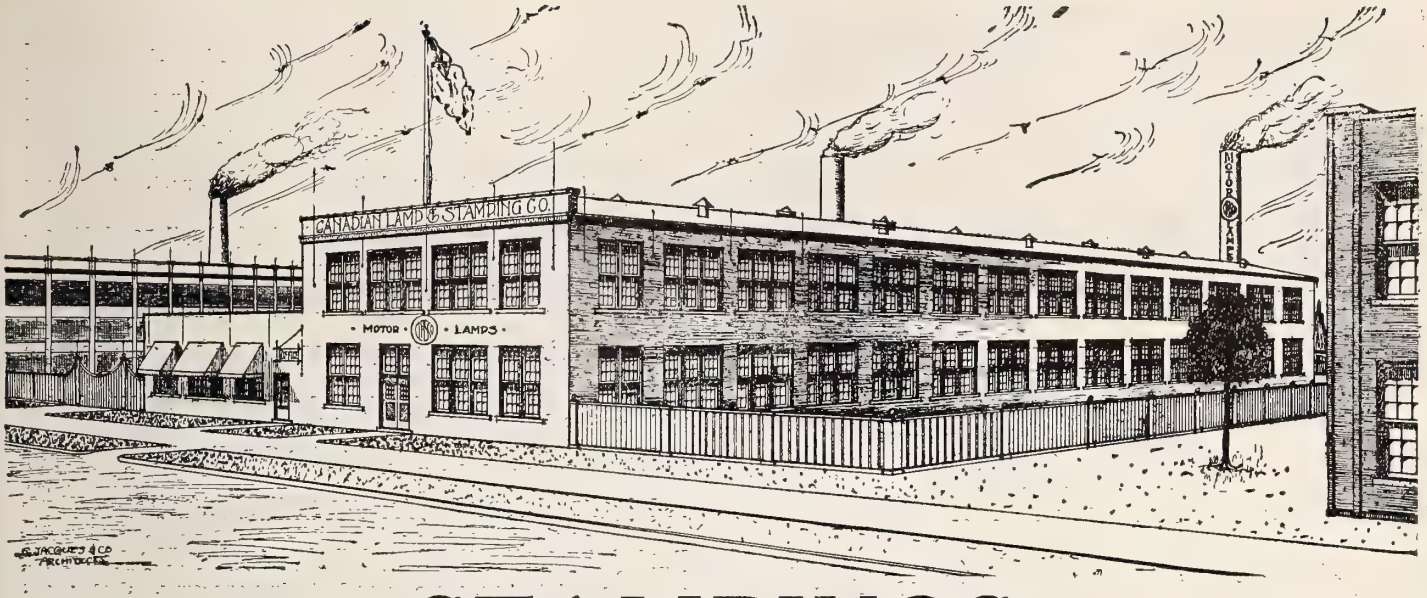
An addition is to be made to the factory of the Brunswick-Balke-Collender Co. of Canada, Ltd.

The Russell Motor Car Co. has sold its Buffalo plant, which was an important subsidiary during its operations on war contracts. It is said that the sale is an advantageous one, realizing more than the company put into it.

Statement has been issued at Toronto City Hall that the Nukol Co. had taken a lease of the property formerly occupied by Toronto Shipbuilding Co. The lease, which was issued by the Harbor Commissioners, is for twenty-one years. It occupies some two and a half to three acres. The company is importing machinery from Belgium, and will start operations in making Nukol as soon as it is installed.

C. A. P. Turner, C.E., a reinforced concrete specialist from the United States, is in Toronto in reference to the designing of the new building for the Northern Aluminum Co. The building is to be 280 x 60 feet, and will be 90 feet high. There will be eight storeys, which will make it actually a ten-storey building, and it will be of reinforced concrete.

Vankleek Hill.—The Perfection Manufacturing Co. contemplates extension to plant.



STAMPINGS

Our specialty is the producing of difficult stampings and deep drawing work in Brass, Steel, Copper, etc., and our plant is adequately equipped to handle this class of work.

Our continually growing list of particular customers, is your best guarantee of ***co-operation, service,*** and ***genuine satisfaction.***

Nothing too small; nothing too difficult for our consideration.

Canadian Lamp and Stamping Co., Limited

Ford City, Ontario

WE TAN AND FINISH THE LARGEST VARIETY OF

Side Leathers and Splits

IN CANADA

SOME OF OUR LINES:

For Bag, Case and Trunk Mfrs.

Bag—Smooth or Embossed, Case, Trunk, Strap, Brace Trunk Strap in any weight or colour.

For Bookbinders and Specialty Mfrs.

Buffings, Long Grains, Cross Grains, Resplits, Pocket Book and Purse in Morocco, Seal, Hog, etc., Razor Strap, Belts.

For Harness and Saddlery Mfrs.

Harness and Collar Leather in Black and Russet, Bridle, Mexican Saddle, Schapp, Cuff Folded Hand-parts, Beaded Line.

For Boot and Shoe Mfrs.

Upper—Vegetable and Semi-Chrome Tannage, Grain Insole, Oil Tan Shoepack.

FOR PUMP VALVES, HYDRAULIC DISC, ETC., OUR

SPECIAL VALVE LEATHER STANDS ALONE

Wax Splits, Collar Splits, Flex Splits, Bag Splits, Strap Splits, Insole, Slipper Sole, Soft Sole and Socklining Splits. Splits for all purposes.

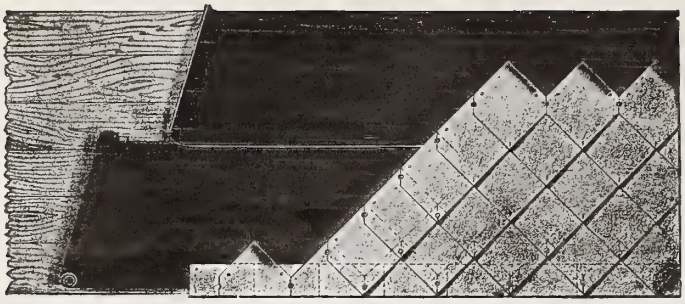
The Barrie Tanning Company, Limited

HEAD OFFICE AND TANNERY: BARRIE, ONT.

Warehouse and Salesroom: 51 Front St. East, Toronto, Ont.

Representative to Shoe trade for Quebec Province: R. M. Fraser, 1 St. Helen St., Montreal

Cable Address: Bartanco. Codes, A.B.C. 5th edition, Widebrook & Lieber

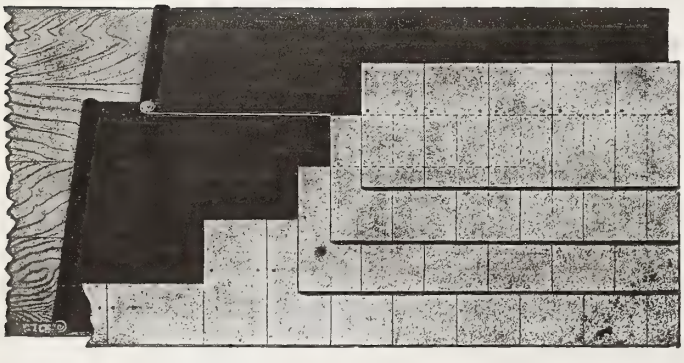


DIAGONAL METHOD

The
Successful
Concrete Roof
MADE IN CANADA
of Canadian
Portland Cement Reinforced
with Asbestos Fibre
MINED IN CANADA

"ASBESTOSLATE"

The most economical
for any building with sloped roof
Also for siding
NEEDS NO PAINT
FIREPROOF
PERMANENT



STRAIGHT METHOD

Buy "Asbestoslate" and avoid
Re-roofing and Repairs

Catalog and samples on request

Asbestos Manufacturing Co., Ltd.

Sales Offices: DRUMMOND BLDG., MONTREAL
Factory: LACHINE, P.Q.

Makers of Asbestoslates, Lumber, Linabestos Wall Board, Pipe Coverings, Mill Board, etc.

Walkerton.—To meet the continued growth of the Canadian textile industry and their continually expanding trade among that industry, the Canada Spool & Bobbin Co., Ltd., are making additions to their plant and building to the extent of $13,000, the company asking the town to guarantee the bonds to the extent of $10,000. While not under the present name, the company has been in continuous business for over seventy years. They have operated under the present name since 1906. During the past year they have had an output of over two million bobbins, and with the new and up-to-date automatic machinery they are installing they will increase that capacity to nearly three million.

Walkerville.—Work on the big plant of the General Motors Corporation is being rushed.—Ten model workingmen's homes, out of a programme of seventy-five, are under construction for the Walkerville Land & Building Co.—A five-story addition will be erected at the plant of the American Auto Trimming Co.—Acme Roofing Co., Walker Road, will erect a new factory.

Weston.—The K. & S. Canadian Tire & Rubber Co. will erect an addition to their factory here.

Wallaceburg.—Work will start shortly for a $10,000 planing mill for the Wallaceburg Lumber Co.

Welland.—The Welland plant of the Canadian Steel Foundries has closed down and the machinery has been shipped to Montreal.

Windsor.—In an effort to increase the factory space, Hiram Walker Sons, Ltd., have commenced construction of a new one-storey addition to their present power building on Devonshire Road, between the G.T.R. and P.M.R. tracks. The new story will be the full size of the other floors, and will accommodate one, or possibly two, more manufacturing concerns. Cost, about $18,000.

Contract for the erection of a one-storey factory has been let by the Champion Spark Plug Co. of Canada, Ltd.

QUEBEC.

Beauharnois.—The Howard Smith Paper Mills will make an addition to their paper mill here.

Granby.—Contracts have been let for a $35,000 factory for the Miner Rubber Co.

Kipawa.—The Kipawa Fibre Co. have let the contract for thirty-six residences, each costing $5,000.

Laval.—The metal stamping works of the Laval Industrial Co. were recently destroyed by fire with a loss of $18,000.

Montreal.—The American Druggists' Syndicate, 24 Craig Street W., contemplate the erection of a factory.—The Wayland Shoe Co. will make an addition to their plant on Providence Street.

The firm of John W. Gates, Ltd., of Montreal, has recently been reorganized under the name of the Gates, Refractories, Ltd., for the purpose of manufacturing all kinds and shapes of high-grade refractory bricks for furnace purposes. The company is now capitalized at $250,000; a plant has been acquired in Montreal East for $25,000, and the erection of kilns and the installation of equipment has already commenced. Operations will be started within the course of a few weeks.

The Mount Royal Rubber Co. will establish a plant in the east end of the city.

Quebec.—The Marceau Oilcloth Co. plans erection of a factory here.—An addition is being made to the factory of Lachance & Tanguay.

St. Hyacinthe.—Cassavant Phonograph Co. plan alterations and addition to their factory.

Shawinigan Falls.—Jos. W. Boisvert has purchased site and will erect a small factory.

Sherbrooke.—Julius Kayser, of the glove manufacturing firm, has announced that a new factory will be erected by the firm on Frontenac Street.

Three Rivers.—Contract has been let to a Montreal firm for the erection of a $150,000 plant for the Page Wire Fence Co.

SASKATCHEWAN.

Regina.—The Ontario Wind Engine & Pump Co. is erecting a new office and warehous building at the corner of St. John Street and Eighth Avenue, Regina, Sask., increased space being made necessary by the larger volume of business which the firm is handling. The structure is of red brick, one storey, 60 x 120 ft. Regina is the headquarters of the firm for Western Canada, branch offices being located in Winnipeg and Calgary.

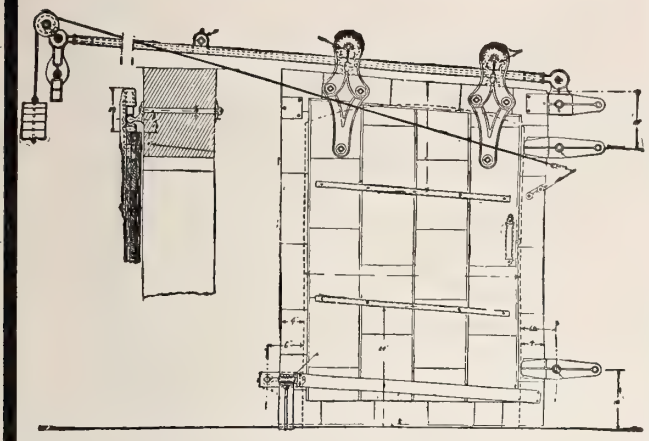
A War Souvenir

A wall card, measuring 10 x 14 inches, and featuring the portraits of Marshals Foch and Haig, General Pershing and Admiral Beatty, has been issued by the International Business Machines Co., Limited, and sister companies. The colors of the Allies, together with a warship and tank, are interwoven in the design, which carries the inscription, "Backed by the Allied forces, these men won the war."

SLATER & BARNARD LTD.

Allith Manufacturing Co., Limited, Branch

HAMILTON, CANADA



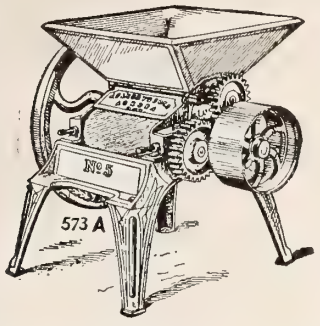
STYLE 700

ALL MADE IN CANADA

Allith Fire Door Hardware is inspected and labelled by Underwriters' Laboratories (Inc.) SAVE MONEY and SECURE MAXIMUM PROTECTION by SPECIFYING ALLITH LABELLED FIXTURES for your Fire Doors.

Write us for prices on Parallel Door Equipment for your heavy Warehouse Doors

WE MAKE ALL STYLES OF DOOR EQUIPMENT



YOUR HORSES THRIVE if you feed Crushed Oats YOU SAVE GRAIN

FLEURY

ROLLER GRAIN CRUSHERS

Two-rollers and Three-rollers used with 2 to 25 Horse Power. Simple in construction, strong and very durable.

Made to CRUSH or if preferred, fitted for ROLLING or FLAKING only.

For Fine Grinding

"Rapid-Easy" Plate Grinder

excel in quantity and quality of work and economy of power.

A Size for any Power

Even if you feed only a few head of stock, it will pay you to have a Crusher or a Grinder. Tell us what Power you have and the class of work you prefer. We shall be pleased to advise which Machine is best suited to your purpose.



J. FLEURY'S SONS

AURORA ONTARIO

LUMBER

Rough Lumber in Spruce, Pine, Hemlock and Hardwood. Doors, Windows, Sheathing and House Finish. Hardwood Mouldings and Flooring. Excelsior Box Shooks, Turnings, etc.

QUALITY AND SERVICE

Scotia Woodworkers, Ltd.

HALIFAX, N.S. OXFORD, N.S.

Drill Steel Opportunity

25 Tons 1-⅛" Cruciform Section Solid Drill Steel

25 Tons 1-¼" Cruciform Section Solid Drill Steel

Will receive bids on lot or any portion above steel for immediate delivery.

Guaranteed quality.

ARMSTRONG WHITWORTH
OF CANADA LIMITED

Head Office:
298 ST. JAMES STREET
MONTREAL

Works:
LONGUEUIL, Que.

THE PUBLISHING HOUSE of MACLEAN

Thos. S. Young, General Manager

Hugh C. MacLean, Limited
Publishers
Footwear Canada Lumberman
Contract Record Electrical News

MacLean Daily Reports, Ltd.
Advance Information on Building and Engineering

The Hugh C. MacLean Co., Ltd
Publishers
Coal Review Western Canada Contractor
The Commercial Western Lumberman

Toronto, Montreal, Winnipeg, Vancouver, Chicago, New York, London, (Eng.)

Recent Trade Enquiries

A List of Enquiries Received Through the Canadian Trade Mission, London, England

1. A firm in Australia desires to receive details and quotations from manufacturers of Canadian hardware, particularly enamelware, and glassware.
2. A firm in South Africa desires to correspond with producers of hardware interested in establishing trade connection with South Africa.
3. A firm in Australia will welcome quotations from producers of cutlery, hardware, garden tools, poultry supplies, etc.
4. A firm in South Africa desires to correspond with Canadian manufacturers of hardware, cart builders' and wagon builders' material, leather, finished timbers, etc.
5. A firm in France asks for samples and quotations on condensed milk.
6. A firm in New Zealand desires quotations on the best qualities of formaldehyde 40 per cent. and cotton seed oil.
7. A firm in Australia desires quotations on paint and painters' supplies.
8. A firm in France asks for quotations and particulars on isinglass, manganese and molybdenite.
9. A firm in South Africa desires to correspond with Canadian manufacturers of leather.
10. A firm in Cyprus desires to establish business relations with first manufacturers of textiles, cartridges, shot, gunpowder, etc.
11. A firm in Natal desires to establish relations with Canadian producers of all products suitable for importation into South Africa.
12. A firm in Italy desires to represent Canadian firms for commodities suitable for import to that province.
13. A firm in England desires to establish business relations with Canadian exporters of canned fruits and general produce.
14. A firm in Australia is interested in receiving quotations and particulars from producers of soft goods, cotton piece, woolens, silks, etc.
15. A firm in South Africa desires to correspond with producers of textile goods interested in working up a trade connection with South Africa.
16. A firm in Denmark desires to represent Canadian manufacturers of fireproof materials, all kinds of machinery, apparatus for gas and waterworks, tubes, coal, etc.
17. A firm in France desires to establish business relations with Canadian producers of alimentary pastes, lard, hams, meat and paper for printing or packing and also pulpwood.
18. A firm in India which imports American and Canadian produce regularly, desires to extend their connections to reliable houses who are keen on export of Canadian goods.
19. A firm in Norway desires to establish business relations with first-class Canadian mills and exporters of wheat and rye flour, rolled oats, iron and steel.
20. A firm in Greece wishes to purchase large and regular quantities of flour and desires good sized samples of higher grades, with quotations.
21. A firm in Norway is prepared to take up new connections in flour, grain and other food articles as well as coal, iron and steel.
22. A firm in Norway desires to correspond with Canadian manufacturers of drugs, chemicals, oils, provisions, hosiery, cotton goods and wool.
23. A firm in Norway desires to secure a general representative with exclusive territorial rights for Norway for leading Canadian manufacturers, merchants and exporters.
24. A firm in Denmark desires to correspond with reliable exporters of all raw materials for industrial purposes, as well as manufactured goods suitable for import to Denmark.
25. A firm in France desires to establish relations with all Canadian concerns interested in that district.
26. A firm in Saaz desires to represent manufacturers of Quaker oats, tinned meat and fish, cheese and other foodstuffs.
27. A firm in England desires to establish relations with exporters of cereals, canned fruits, canned fish and other articles pertaining to the produce market.
28. A number of firms in Mexico City are interested in the importation of builder's hardware.
29. A number of firms in Mexico are interested in the purchase of canned goods.
30. A firm in England desires to represent Canadian manufacturers of cotton prints, hosiery, etc.
31. A firm in South Africa desires to correspond with Canadian manufacturers of finished timbers.
32. A firm in Denmark wishes to be placed in touch with shippers of such foodstuffs as butter, flour, canned goods (lobster, salmon, etc.).

DOMINION GLASS COMPANY LIMITED

HIGHEST QUALITY TANK GLASS PRODUCTIONS



Bottles, Jars, Packers' Ware
Tumblers, Chimneys, Globes

Our Productive Ability can be Gauged by the Numerous Colors at the Disposal of Patrons



OWENS MACHINE WARE WITH PATENT CLOSURES A SPECIALTY

HEAD OFFICE—MONTREAL EXPORT OFFICE—MONTREAL

SALES OFFICES—WINNIPEG, VANCOUVER

FACTORIES

MONTREAL TORONTO HAMILTON WALLACEBURG REDCLIFF

WHITTALL CANS

for

Meats Vegetables Milk Syrup Fish
Paint Etc.

PACKERS' CANS

Open Top Sanitary Cans
and
Standard Packer Cans
with Solder-Hemmed Caps

A. R. Whittall Can Company, Ltd.

MONTREAL

Established 1888

Write for Prices

on

SINGLE PHASE MOTORS

REPULSION and SPLITPHASE Types

Toronto and Hamilton Electric Co. Limited

99 - 103 McNab St. N.

Hamilton, Ont.



Maples Limited

Manufacturers and Refiners

TORONTO *CANADA*

33. A firm in Denmark desires to communicate with manufacturers of agricultural implements.

34. A firm in Denmark desires to be put in connection with some Canadian firms that wish to export manufactured and raw materials. Samples, catalogues and quotations requested.

35. A firm in Denmark wishes a list of firms who are interested in export of foodstuffs.

36. A firm in France is particularly interested in wheat flour, beans, vegetables, and alimentary products and asks for samples and quotations.

37. A firm in Abyssinia is interested in fruits in syrup and would like to receive price-lists and samples.

38. A firm in Costa Rica desires to establish business relations with Canadian manufacturers of cloth, including both cotton and wool, and ironware.

39. Canadian producers interested in establishing trade with Denmark may find it to their advantage to correspond with a firm in Denmark, which is devoting considerable time and attention to encouraging trade between this country and Canada. Goods mentioned are: Foodstuffs, all kinds of textile goods, and machinery of all descriptions.

40. A firm in Belgium desires to establish business relations with leading manufacturers of grease proof paper and producers or exporters of raw asbestos.

41. A firm in England desires to correspond with Canadian exporters of barytes.

42. A firm in Switzerland will be very glad to be put in touch with Canadian exporters of foodstuffs with a view of obtaining part of the supplies for Switzerland during the coming crop year.

The Nitrate of Soda Supply

Useful Information from Chile Regarding the Supply of this Important Commodity

Manufacturers engaged in the glassware, fertilizer and explosive industries will probably be interested in the following information regarding the nitrate of soda business in Chile, which is supplied through the courtesy of Mr. H. Feilman, Toronto. The information comes to Mr. Feilman from his brother, Mr. Erwin Feilman, who resides in Chile. The latter writes:

"A few months ago 'La Asociacion de Productores de Salitre de Chile' (The Nitrate Producers Association of Chili), with headquarters in Valparaiso, was formed, and at present about 80 per cent. of all the nitrate companies are represented in this association, which is the only one that can sell nitrate of soda in our days.

"The prices fixed for the moment are for every 46 kos. Spanish quintal—22 Spanish quintals equal to 1 ton), 10s. 1d. for nitrate of 95 per cent. and 10s. 6d. for refined nitrate, say 96 per cent. These prices are free along side steamer, quoted in British currency and payable at completion of loading here in Chili in first-class bills of exchange on London or New York at seller's satisfaction.

"The nitrate of soda of 95 per cent. is generally used as manure for fertilizing purposes, and the 96 per cent. one was purchased in very large quantities during the past war by munition factories.

"Nitrate is shipped in bags of about 100 kilos—say 2 quintals Spanish net—and the price includes the bag, but the weight is taken on the nitrate only deducting from the gross weight 0.7 per cent. for the bag. Generally 10½ bags are counted to the ton.

"*Re* freight from here to New York or Halifax or any other port in the U.S.A. or in Canada, I am sorry to say, that I have not been able to obtain any quotation and I have come to the conclusion that the steamship lines will not carry any nitrate from here until the prohibition of the import on nitrate of soda into the U.S.A. has been removed.

"Due to the actual international situation, it is very difficult for me to give to you all the details I should like to forward, but as it will take some time yet until there will be sufficient shipping facilities, I should advise you to communicate at once with the above-named association and when writing you may drop at the same time some lines to Mr. Carlos Cavallero, partner of the firm of Bruna, Sampaio & Co., of Valparaiso, who has offered himself to see that you may receive prompt attention."

DEPENDABLE SERVICE

JOINT GLUE



VENEER GLUE

ALWAYS UNIFORM
Samples and Prices on Request

DELANY & PETTIT, LIMITED
TORONTO

Dominating the Stove and Furnace Industry

Strong, virile energy concentrated on making every product a success, in quality and workmanship;

Live, stimulating advertising to educate and hold the consumer;

Breadth of vision and confidence in your country to push plant extensions to meet estimated big business;

Culminating in the present-day largest organization of Stove and Furnace Manufacturers in the British Empire;

AT YOUR SERVICE, seventy-two years ago and NOW

McClary's

London, Toronto, Montreal, Winnipeg, Vancouver, St. John, N.B.
Hamilton, Calgary, Saskatoon, Edmonton

The
Canadian Meter Co., Ltd.

Manufacturers of
METERS
For Acetylene, Coal, Gasoline and Natural Gases, also for Air

Office and Works :
HAMILTON, CANADA
90 CAROLINE ST. N.

WE GIVE
"Quality and Service"
in
Tractor and Truck
Steel Castings

JOLIETTE STEEL CO. LIMITED
903 Read Building
MONTREAL

Merchant's Bank Makes Progress

On April 30th Closed the Best Year in the Long History of the Institution

The annual report of the Merchants Bank of Canada for the year ended April 30th, 1919, is the most satisfactory in the history of this bank. Not only were net earnings greater than in the previous year, but deposits, both interest bearing and non-interest bearing, current loans, quickly available assets, and total assets, all show very satisfactory increases. Net earnings increased from $1,236,000 to $1,383,569. Total deposits in Canada now stand at over $138,000,000, as compared with $113,000,000 for the previous year. Quickly available assets stand at $62,750,000, a gain of over $5,000,000 as compared with the previous year. Current loans in Canada amount to $95,874,000, a gain of almost $20,000,000 over the figures for the previous year, and furnish a striking illustration of the large part the Merchants Bank is playing in the business needs of the country. Total assets of $186,725,000 compare with $141,000,000 last year.

Other evidences of progress were shown by the fact that since the close of war the Merchants Bank has opened many new branches and sub-branches. It is thus doing everything possible to provide adequate banking facilities to the country, and at the same time absorb its officers now returning from overseas. Sir H. Montagu Allan, the president of the bank, in his address reviewed the balance sheet, and spoke of the death of Andrew A. Allan, one of the directors. General Manager D. C. Macarow referred to the satisfactory business which had been transacted during the year, and the promising outlook for the coming year. Altogether it was a report which reflects the highest credit upon the management of the bank.

A further evidence of the shareholders confidence in their directors was shown by their authorization of an increase in the bank's capital from $10,000,000 to $15,000,000. This increase is to provide for future expansion. The president explained that there was no intention of issuing any stock in the near future.

New Wingham Industry

Aero Cushion Inner Tire Co. Expects to Start Operations Some Time this Month

It is the hope of the Aero Cushion Inner Tire & Rubber Co. of Ontario, Limited, which is locating a plant in Wingham, Ont., to be able to start manufacturing about the middle of July. The company, which has been incorporated by a number of local capitalists, has taken over the two buildings of the Western Foundry Co., Limited, and is now putting them in shape for use. In one building, 200 x 80 feet, inner tires will be manufactured; in the other, 165 x 65 feet, casings and a general line of rubber goods. Additional land is available for expansion.

It is the intention of the company to begin with the manufacture of the inner tire only, and then, when the demand for them is well in hand, possibly in a year, to expand into casings and a general line of rubber goods. Initial capacity will be about 100 inner tires a day. This will require about thirty hands, not including the office staff.

The aero-cushion tire is the invention of E. L. Sherboudy, who will be general manager of the company. It is an inner tire, circular in form, moulded in size and shape to fit the outer casing, composed of pure para rubber, highly porous, which makes it very light and resilient. Blowouts and punctures are claimed to be absolutely impossible owing to the confinement of the air in millions of pores.

Every Member of Our Organization is an Active Worker, co-operating to produce Results

Results mean Satisfied Owners

JOHN V. GRAY CONSTRUCTION CO., LTD.
GENERAL CONTRACTORS
625 Confederation Life Building - - - - TORONTO, ONT.

ARE YOUR STEAM PIPES INSULATED?

IF NOT YOU ARE BURNING MONEY

A GOOD COVERING pays for itself in one Season, and is a revenue producer indefinitely. The Best is the Cheapest **WE HAVE IT**

EUREKA MINERAL WOOL & ASBESTOS COMPANY
118 ADELAIDE STREET WEST, TORONTO, ONTARIO

JULIUS COHEN & JOSEPHY

Foreign Domestic **WOOL** *Noils, Wastes and Shoddy*

Also operating THE YORKSHIRE WOOL STOCK MILLS, ALMONTE, ONT.

Manufacturers of Pulled and Carded Shoddies

H. V. ANDREWS Canadian Representative **13 Church St., Toronto**



GEARS
Spur
Worm
Spiral
or Gear Cutting from your blanks.

Hamilton Motor Works, Limited
HAMILTON, CANADA

FORGED STEEL TOOLS
AXES, HAMMERS, WRENCHES
CANADA
FOUNDRIES & FORGINGS, LIMITED
BROCKVILLE, CANADA

A Man of Widespread Interests

New Chairman of the Maritime Branch, C.M.A., Connected with Numerous Companies

Angus McLean, recently elected chairman of the Maritime Branch, C.M.A., forms the subject of an interesting sketch in a recent number of the *Canadian Lumberman*. Mr. McLean, it appears, was born in Thurso, Que., and early in life took to the woods and the open air. When fourteen years old, he made his first trip to Montreal with his father on a raft. This was in the spring of 1874, and since that date Mr. McLean has been engaged continuously in the timber and lumber business. His father, Donald McLean, was a well known lumber man and was in the square timber trade for many years, getting out square and platted pine and cedar in the winter and floating the rafts down the Ottawa River to Lachine and Montreal in the spring and summer. Angus McLean secured his first job with James McLean & Co., of Buckingham, Que., in 1877, as a shipper of lumber, and soon after entered the office of J. A. Cameron & Co., North Nation Mills, Que., with whom he remained a number of years. He then took a position with W. C. Edwards & Co., at their Rockland plant on the Ontario side of the Ottawa River, which mill has been established fifty-one years. There, in the capacity of accountant, Mr. McLean remained until 1895, when he went to Buffalo, N.Y., and in association with his brother, Hugh McLean, was engaged in business under the firm name of Hugh McLean & Co. He returned to Canada ten years ago to become General Manager of the Bathurst Lumber Co., Limited, Bathurst, N.B. Mr. McLean holds a number of important offices, being President of the Hugh McLean Co., of Buffalo, Vice-President of the Haines Lumber Co., of North Tonawanda, N.Y., and Vice-President of the Wood Mosaic Co. of New Albany, Indiana, as well as Vice-Chairman of the Eastern Spruce Manufacturers Section of the Canadian Lumbermen's Association.

He has two sons—A. E. McLean, who has spent several years in the business, and is now manager of the pulp and paper division, and Hugh McLean, who spent some years overseas during the war with the 12th Canadian Siege Battery. Gunner McLean enlisted in September, 1917, and sailed for England in December of the same year. In March, 1918, he landed in France and was in the fray until the armistice was signed. He went through the severe fighting at Cambrai, where the Canadians suffered such heavy loss, and had just reached Mons when the war terminated. Gunner McLean returned home recently and was given a cordial welcome.

Former Officer in Practice

Mr. N. A. Keys has Entered upon the Practise of the Law in Toronto

Many of the members of the Association will recall Mr. N. A. Keys, who was the assistant to the Legal Secretary of the C. M. A. in the happy days before the war. He has just recently associated himself in the practise of law with Mr. C. F. Ritchie in the Continental Life Building, Bay and Richmond Streets, Toronto. Mr. Keys would be the last man to describe himself as a "first-class fighting man," but during his thirty-three months' connection with the Canadian Expeditionary Force he accumulated, among other things, a fund of experience, a commission, a Military Cross and three wound stripes. On his return to Canada he spent about a year in Ottawa administering the War Charities Act in the Secretary of State's Department. His renewed venture into the legal field started in the middle of June. All his former associates proffer to him their best wishes for his success.

Canadian Carbonate Company, Limited

Offices and Factories:

HALIFAX, MONTREAL, TORONTO

WINNIPEG, VANCOUVER

■

Manufacturers of

"CROWN BRAND" LIQUID CARBONIC ACID GAS

Protect Your Employees and You Protect Your Plant



The Minute your Employees find that YOU are looking after THEIR welfare, they'll begin to do better work for you.

Cheerful surroundings and safeguards to health are to-day considered the best aids to efficiency.

EDDY'S TISSUE TOWELS

Do away with germ carrying or disease spreading through the medium of the Roller Towel.

Each person has a clean towel. Each towel is used only once—then thrown away.

Made of soft crepe paper, clothlike in feel and results, put up in rolls of 150, 250 and 500, each roll is well perforated and each towel easy to detach.

No laundry bills when you use Tissue Towels. They're always dry, always clean, always fresh and ready to use. Whether your staff is fifty or five thousand, you'll find Eddy's Tissue Towels effective and satisfactory.

EDDY'S FIRE PAILS

Give an added feeling of security. Made of Indurated Fibreware they can't leak, shrink or fall apart. Acids won't hurt them. Their shape prevents them being used for any other purpose than fire protection. Made by Eddy at Hull. Used all over Canada.

EDDY'S MATCHES

Though made to light they're as safe to carry as your pencil. Clear selected wood only is used in making them. They won't break when you strike them. Heads won't fly off, and when you blow them out they ARE out. The chemical treatment they are put through leaves no afterglow. They won't explode when trod upon.

Made at the Mammoth Plant

OF

The E. B. Eddy Co., Limited

Hull - Canada





Chemical Plant, Sandwich, Ont.

CHLORIDE OF LIME
BLEACHING POWDER
CAUSTIC SODA

The Canadian Salt Company has established the only plant in Canada manufacturing these products. The plant is equipped with the most modern machinery and your orders will receive prompt and careful attention.

ORDER WINDSOR BRAND

CHLORIDE OF LIME, BLEACHING POWDER
CAUSTIC SODA

WINDSOR TABLE SALT
REGAL TABLE SALT
Free Running
WINDSOR DAIRY SALT
WINDSOR CHEESE SALT

Windsor and Regal Salts are produced in the finest salt manufacturing plant under the British flag. Skill in manufacture, combined with scientific knowledge, has produced salt recognized for its quality in practically every home, farm and dairy in Canada.

Made in Canada by

The Canadian Salt Co., Limited

WINDSOR, ONTARIO



The Salt Plant, Windsor, Ont.

Union Bank Expands

Remarkable Growth Recorded by this Institution Since First of the Year

In the recent announcement of Mr. J. S. Hiam, Superintendent of branches, that the Union Bank of Canada's system, by a remarkable expansion which has been in progress since the commencement of the year, had been brought up to a total of 360 branches is seen the determination of the directors of this "pioneer bank of western Canada" to keep their institution in the forefront of Canadian banks. The Union Bank of Canada has made notable progress both within the Dominion and abroad following the policy of building up an institution of an international character which will provide a financial highway for Canadian trade with foreign countries and give efficient banking sservice.

Since the signing of the armistice there has been a general disposition among bankers to extend Canadian banking facilities, but no more aggressive policy has been followed by any one institution than by the Union Bank of Canada, which in the domestic field alone has opened more than sixty new branches at strategic points from Charlottetown, P.E.I., on the Atlantic, throughout the Dominion to the Pacific coast. These latest extensions have brought the branch system of the Union Bank of Canada to a total of more than 360 branches, a notable record, and of this number some 250 branches are now located in the provinces of Manitoba, Saskatchewan, and Alberta, obviously indicating the policy of the directors to extend to the West the fullest possible measure of banking service. The Union Bank of Canada in its expansion is tapping not only immediately profitable districts, but is entering communities whose future promise alone offers the reason for establishment of a branch at this time. The directors apparently are willing to grow up with these communities.

Coupled with an impressive progress within Canada is an interesting movement abroad which is making for vital international connections, doubly important at a time when the country has particularly ambitious plans for foreign endeavors. The alliance of the Union Bank of Canada with the National Park Bank of New York which resulted in the formation of the Park-Union Foreign Banking Corporation some few months ago is resulting in the building up of notable connections abroad, and particularly in the Far East. The Corporation, apart from its executive office in New York city, has established branches at San Francisco, Seattle, Yokohama, Japan, Shanghai, China, and direct connections in the Dutch East Indies.

The Union Bank of Canada already has its own New York agency, and in London, where it has had two branches for some years, its position has been materially strengthened with the appointment of a London, Eng., Advisory Committee, the personnel of which has just been announced. The members of this Committee are, Messrs. A. E. Harris, C. W. Small, J. C. Blair, and Sir Keith Price, in association with Mr. F. W. Ashe, Assistant General Manager, resident in London.

Dunham Heating Service

Two new bulletins, Nos. 101 and 107, have been issued by the C. A. Dunham Company, Limited, Toronto, in their usual style. No. 101 deals with the Dunham Radiator Trap. This device, which renders low-pressure steam heating practical, is described and illustrated in detail, and instructions are given for its installation. No. 107 performs a corresponding service for the Dunham Air Line Valve. Both are valuable contributions to the subject of steam heating and should be in the hands of those responsible for the heating of industrial plants and other buildings.



Fellow Manufacturers

We make in Canada

Lead Pipe, Sheet Lead
Wire Solder, Bar Solder,
Ribbon Solder,
Babbitt Metal for all requirements

INGOT METALS

Copper, Tin, Lead,
Aluminum and Brass,

EVERYTHING IN METALS

Wherever you are we can serve you

The Canada Metal Company Limited

TORONTO, MONTREAL, WINNIPEG, VANCOUVER.

MALLEABLE IRON WASHERS

STANDARD PATTERNS



Cost less than Cast Iron Washers

Let us quote you prices

Otterville Mfg. Co. Limited
Otterville, Ont.

SPECIAL MACHINERY

Built to Order

Also gauges, punches, jigs, dies, small tools, etc.
Prompt Service.
Moderate cost.
Send Blueprints for estimate.

MADE IN BR·EN·CO CANADA

Brown Engineering Corporation
LIMITED, TORONTO
415-419 King St., W. Tel. Adel 425

YOUR INTERESTS

Can Best be Observed by the Use of

EXCELSIOR ANHYDROUS AMMONIA

STANDARD FOR QUALITY

MADE ONLY BY

Canadian Ammonia Co.
LIMITED
TORONTO, ONT.

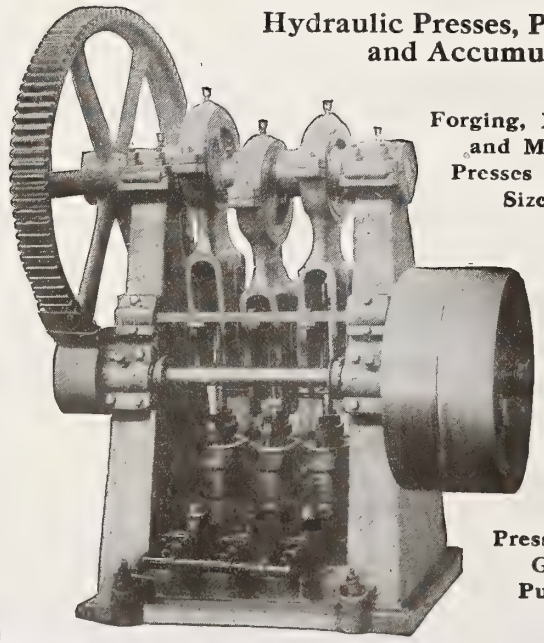
Stock Also Carried at:

HALIFAX, N.S. QUEBEC, QUE. VANCOUVER, B.C
ST. JOHN, N.B. WINNIPEG, MAN. VICTORIA, B.C.
MONTREAL, P.Q. CALGARY, ALTA.
PRINCE RUPERT, B.C. EDMONTON, ALTA.

PRESSES

Made in Canada

Hydraulic Presses, Pumps and Accumulators



Forging, Nosing and Marking Presses for all Size Shells

Presses for General Purposes

WILLIAM R. PERRIN, Limited
Toronto, Canada

The Canada-France Service

Canadian Manufacturers Urged to Support the New Line Now Running Between Montreal and Havre

For the first time in the history of Canadian transportation, a standard line service is now in operation between Canada and France. This service is being rendered by La Compagnie Canadienne Transatlantique Ltée, with boats operating at regular intervals between Montreal and Havre. In years past several attempts were made to do this, but they were not successful, and in consequence were abandoned. The Allan Line a few years ago had some of their boats on the London route make Havre a port of call, but this service has not been available for some time back.

La Compagnie Canadienne Transatlantique constitutes an affiliation between the Canada Steamship Lines, Limited, and La Compagnie-Generale Transatlantique, generally known as the French Line. This gives the subsidiary company the benefit of the agencies of the French Line throughout Europe and those of the Canada Steamship Lines throughout Canada and the United States, making a combination which offers every opportunity for the development of trade.

There is no doubt that Canadian exporters and importers should be greatly interested in this new line of direct service. In view of its existence it does not seem right that it should be necessary for Canadian goods to be forwarded through American seaboard ports to destination. Neither should French goods intended for Canadian importers be routed via American ports.

Under the treaty between France and Canada, signed in 1907, it is agreed that in order to get the full benefit of the tariff concessions, each party must ship through its own ports. This requirement is set forth in Article VIII, reading as follows:—

"To enjoy the benefits of the aforementioned tariff advantages, products originating in France, Algeria, the French colonies and possessions and the territories of the Protectorate of Indo-China, shall be conveyed without transhipment from a port of those territories or from a port of a territory enjoying the preferential tariff or intermediate tariff, into a sea or river port of Canada.

"To enjoy the benefits of the aforementioned tariff advantages, Canadian products shall be conveyed without transshipment from a Canadian port or from a port of a country enjoying the French minimum tariff to a port in France, Algeria, the French colonies and possessions and the territories of the Protectorate of Indo-China.

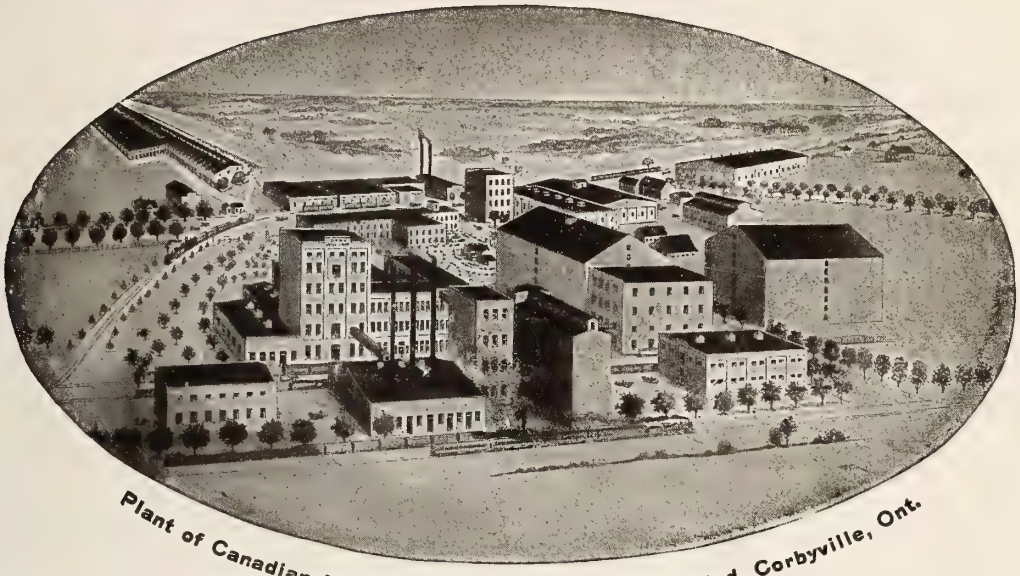
"Provided, however, that nothing in this Article shall exempt the products of either country from any surtaxe d'entrepot that is now, or hereafter may be, imposed on products imported indirectly."

The foregoing regulation has not been strictly enforced during the past two or three years because of the scarcity of ocean tonnage between Canadian and French ports, but with the new arrangements it should again be applicable.

Morris Blocks and Hoists

Two pieces of advertising literature come to hand from the Herbert Morris Crane & Hoist Co., Limited, Niagara Falls, Ont. One deals with the Morris triple-gear chain block. Its advantages, particularly where men of mature years are employed, are emphasized. Efficiency can be conserved by providing such employees with proper machinery for handling heavy loads. With a Morris triple-gear chain-block, one man can lift the heaviest piece without fear of accident. The other leaflet describes the Morris belt-driven friction hoist, a simple but effective hoist for small loads. Illustrations serve to visualize the service of this useful hoist.

ALCOHOL



Plant of Canadian Industrial Alcohol Company Limited, Corbyville, Ont.

With a capacity of 450,000 (proof) gallons per month we are the largest producers of Alcohol in Canada.

Manufacturers of vinegar, perfumes, essences, pharmaceutical preparations, etc., are invited to write us for prices of Alcohol suitable for their particular line of business.

We make a special feature of contracting for the requirements of manufacturers for the year or season, thus providing not only a uniform cost but also a steady supply as needed.

Those who are using Duty Paid Alcohol in their manufacturing processes would do well to consult us with a view to using it "In Bond," thus avoiding the use of two-year-old Alcohol. Under the rules and regulations of the Department of Inland Revenue, newly made Alcohol may be used "In Bond." This Alcohol is much cheaper than two-year-old.

METHYLATED SPIRITS or Denatured Alcohol is sold only by the Department of Inland Revenue, Ottawa, Ont., but any other kind of Alcohol may be secured from us.

CANADIAN INDUSTRIAL ALCOHOL COMPANY LIMITED

MONTREAL, QUE.

The Legal Powers of Trade Unions

By H. MACDONALD
Secretary, Legal Department, C.M.A.

IN view of the rights professed or assumed in these times, by various combinations of workmen, it may be well to state briefly how the law stands in this respect.

A trade union is an "association of laborers for their mutual benefit." A "trade union" is a broader term than "labor union," in that it embraces combinations of workmen as well as laborers. This distinction finds legislative recognition in the English Trade Union Act of 1871. Up to the passing of this Act, labor combinations were illegal and no contracts made, by or with them, were enforceable at law. At common law, workmen were prohibited from combining to force an increase of wages.

In England, various statutes were enacted since 1349, forbidding, under severe penalties, all conspiracies of workmen or laborers, "not to make or to do their work but at certain price and rate." In 1893, an eminent English Judge (Lord Mansfield) said in Rex. V, Eccles: "Every man may work at any price he pleases, but a combination not to work under certain prices is an indictable offence."

The effect of the English "Trade Union Act, 1871," was to legalize labor unions, to authorize their registration, and to enable them to hold property. The main reason why trades unions do not register is that they may be immune from the judgments of the courts. If they had a corporate status, they would be liable for their acts and their funds would be subject to attachment like any other individual.

Strikers may use peaceful persuasion and argument to induce other workmen not to accept employment with a particular employer or employers, but strikers have no right to use force. If strikers necessarily require, as a condition of success, the violation of personal liberty, they stand self-condemned.

The English restrictive legislation, however, never found much foothold in this country or in the United States. The law sanctions no combination, either of employers or employees, which have for their immediate purpose, the injury of another, or the unjustifiable interference with his rights and privileges.

All the members of the combination are liable for all the overt acts, illegally done, pursuant to the general scheme agreed on by the combination.

There has been some diversity of legal opinion upon the legality of "picketing," but by a majority of decisions, *peaceful* picketing has been held to be lawful.

In regard to the breach of agreements on the part of strikers, common in recent strikes, it is well settled that one who procures the breach of a contract of any character by one of the parties to the injury of another party, is guilty of an indictable offence.

No man can be compelled to join a union, and if he is not a member is not subject to its rules, and of course, the rules of "unions" must be legal rules. Organized labor has no business whether the employer employs free labor or union labor. Union labor may, of course, make any conditions they desire as long as they are legal, but the employer has the right to refuse acknowledgment if he wishes.

YOUR BUSINESS—
AND OURS

The return of the country to a peace basis and the opening of the markets has a direct bearing on your business and on ours.

You, a manufacturer, are faced with new problems—more efficient factory operation, new processes, material and by-product utilization, new products and new supplies.

We, an organization of practical industrial chemists, present the means of solving these problems.

A staff of technical men familiar with the practical and the commercial features of your problems—fully equipped laboratories and technical resources—will assist you in a solution of your difficulties. All information given by you is confidential.

No obligation incurred by laying before us your problems. We will write you fully regarding any inquiry.

THE LARGEST AND BEST EQUIPPED COMMERCIAL LABORATORIES IN CANADA

MILTON HERSEY COMPANY LIMITED

INDUSTRIAL CHEMISTS, ENGINEERS AND INSPECTORS

MONTREAL WINNIPEG

THE NICHOLS CHEMICAL COMPANY, LIMITED

MANUFACTURING CHEMISTS

HEAD OFFICE: 222 ST. JAMES STREET, MONTREAL

Branch Office—120 Mill Street, Toronto

WORKS: Capelton, Que., Sulphide, Ont., Barnet, B.C. WAREHOUSES: Montreal, Toronto

Sulphuric Acid	Sulphate Soda	Glauber's Salt	Bleaching Powder
Muriatic Acid	Sulphide Soda	Blue Vitriol	Tri-Sodium Phosphate
Nitric Acid	Hypo-Sulphite Soda	Sulphate Alumina	Ammonia
Hydrofluoric Acid	Bi-Sulphite Soda	Papermaker's Alum	Salt Cake
Mixed Acid	Phosphate Soda	Caustic Soda	Tin Crystals

Agents for Baker & Adamson's Chemically Pure Acids and Chemicals

AGENTS FOR CANADIAN SALT CO.—"WINDSOR" BRAND CAUSTIC SODA & BLEACHING POWDER

Are You Thirsty?

DRINK **"GURD'S"** DRINKS

"They Satisfy"

"GURD'S" DRY GINGER ALE is select in every particular—pleasingly pungent—of delicately balanced flavor. A favorite at select social functions. To drink "GURD'S" drinks is a wholesome Canadian "national habit."

CHARLES GURD & CO., LIMITED MONTREAL

Beverage Manufacturers, Mineral Spring Owners, and Wholesalers

TAR PRODUCTS BENZOLS

Dominion Tar and Chemical Company

TAR DISTILLERIES:

SAULT STE. MARIE, ONT. SYDNEY, N.S.

Also Agents and Operators for TORONTO CHEMICAL CO.

Benzol Recovery Plant, Sault Ste. Marie, Ont.

Address all communications to Sales Office, Sault Ste. Marie, Ont.

Black Varnish	Naphthalene	Benzols	Fat Extraction Solvents
Creosote Oils	Disinfectants	Xylols	Paint Naphthas
Wood Preservative Oils	Crude Carbolic Acids	Solvent Naphthas	Crude Naphthas
Hard Coal-Tar Pitch	Phenols and Cresols	Rubber Solvents	Shingle Stain Oils

Steel Tires for Dutch Indies

Armstrong, Whitworth, of Canada, Limited, with works at Longueuil, Quebec, have just completed one of the largest individual orders for steel tires placed this year, covering 3,000 tires, placed by the Netherlands Government, New York Office, for shipment to the Dutch Indies.

These tires were manufactured from raw materials at this Company's works at Longueuil. The steel was made in Heroult electric furnaces, and the tires were manufactured with the equipment installed early in 1918, when the tire and wheel plant was added to the present works at Longueuil.

This is a concrete example of what Canadian manufacturers can do to secure foreign trade, and the success with which this order was handled by this Company has acted as an impetus to further developing foreign trade.

Needless to say, the Netherlands Government assured themselves of the very high quality of steel tires which this Company are making before placing the order in their hands, and it should be a source of gratification to Canadian manufacturers to know that markets heretofore controlled by Germany can be secured.

Canada's Trade Reviewed

A wealth of valuable information about financial, commercial and industrial conditions in Canada and Newfoundland appear in the annual report for 1918 of Mr. F. W. Field, H.M. Trade Commissioner at Toronto. It is in a sense a year book of Canadian trade and summarizes in a concise way all the important developments in finance, manufacturing and commerce during the year 1918. Mr. Field is a past master in this kind of work, and it would be difficult to find any feature of the year's happenings that is not covered very carefully by his report.

There is given, in the first place, an introductory report on the trade of the Dominion, covering financial conditions, agriculture, transportation, minerals and mining, fisheries, lumber, immigration, scientific research, industrial conditions, and import trade. Following this general report, comes a comprehensive report on the trade of the Province of Ontario, a division of the work for which Mr. Field is specially responsible. This extends to forty-eight pages and forms the backbone of the book. It is perhaps the first time that the Ontario field itself has been so thoroughly covered. The balance of the report embraces contributions from the Imperial Trade Correspondents in the other provinces of the Dominion.

The whole work is an evidence of the importance which the British Board of Trade attaches to the Canadian market.

Bankers' Opinions on Paint

A questionnaire sent to a number of bank officials brought out very clearly the fact that the person who had a well preserved and painted property had a better credit rating and standing in the community.

All the bankers were unanimous in the opinion that property kept in a good state of repair and paint entitles the owner to more consideration in a loan; that such property will sell for more money, and that it is an asset to the property owner in his financial dealings. One banker said that he found that as a man was, so was his buildings. The man who was slovenly about himself generally took no interest in the repair or condition of his buildings.



Calkin's Automatic Disinfectors

will keep your Toilets free from odors.

Our LIQUID SOAP DISPENSERS are Sanitary and will save you money. Use SHIELD BRAND LIQUID SOAP—it's pure.

SOL-O-KRE (Coal Tar) Disinfecting Fluid for scrubbing, cleaning and general disinfecting of Lavatories and Factories.

WE MAKE A SPECIALTY OF FACTORY DISINFECTING
PUT YOUR PROBLEMS UP TO OUR SERVICE MEN

Office and Factory: 1 Howard Park Ave., Toronto, Canada

HEAVY CHEMICALS AND DYESTUFFS

The Grasselli Chemical Co.
LIMITED

Manufacturing Chemists

Toronto, Ontario

Branch Office: MONTREAL, QUE. Works: HAMILTON, ONT.

QUALITY AND SERVICE

Acetic Acid Refined
Acetic Acid Crude
Acetic Anhydride
Acetate of Soda
Acetate of Lime
Acetone Pure
Acetone Alcohol
Acetone Oils
Charcoal
Columnian Spirits
Wood Alcohol
Creosote Oils
Formaldehyde
Methyl Acetate
Methyl Alcohol
Methyl Alcohol Pure

Made in Canada

Standard Chemical, Iron and Lumber Co.
OF CANADA, LIMITED

MONTREAL TORONTO WINNIPEG

Dominion Steel Corporation

Earnings Last Year Showed a Decline, but Company's Position is Strong

After deducting all operating expenses, repairs and maintenance and business profits tax, the net earnings of the Dominion Steel Corporation for the year ended March 31st last, amounted to $8,768,054, as compared with $11,030,122 in 1918. After all deductions, including interest on bonds and the regular dividends on the preferred shares, net profits on the year's operations amounted to $5,470,468, against $7,601,660 in 1918, and $8,221,165 the previous twelve months.

Earnings were at the rate of 17 per cent. on the outstanding common stock of the Corporation, against 23.7 per cent. in 1918 and 9.4 per cent. in 1916.

After deducting the disbursements to holders of the common shares from the net profits for the year, there remained to be added to the previous balance of profit and loss account the sum of $3,705,904, bringing the total up to $17,459,251. From this balance there was deducted as a reserve for contingencies, including Government taxes for the Corporation's fiscal year, the sum of $1,000,000, while the generous amount of $8,500,000 was transferred to a new general reserve fund, which is shown in the balance sheet exhibit at $11,500,000, the new reserve including the item of $3,000,000 shown in last year's statement as "special Reserve."

The balance sheet discloses an excellent financial position. The working capital of the Corporation, standing at in excess of $14,000,000, while some $3,700,000 less than that of a year ago, is, nevertheless, a comfortable one for a period like the present.

Branching Out in France

Royal Bank of Canada Establishes a French Subsidiary in Paris

Announcement was made last month by the Royal Bank of Canada that the Royal Bank of Canada (France) had been organized to transact a general banking business in France. Offices have been opened at 28 Rue du Quatre-Septembre, Paris, with Mr. William Warren as manager and Mr. N. G. Hart assistant manager. As the Royal Bank of Canada (France) will have at its command all the facilities afforded by the numerous branches of the parent institution, it is in an exceptional position to extend a complete banking service on favorable terms.

Manufacturers of

Industrial Alcohol
Non-Potable Spirits
Cologne Spirits

J. P. WISER & SONS, Limited
Distillers
PRESCOTT - - - ONTARIO

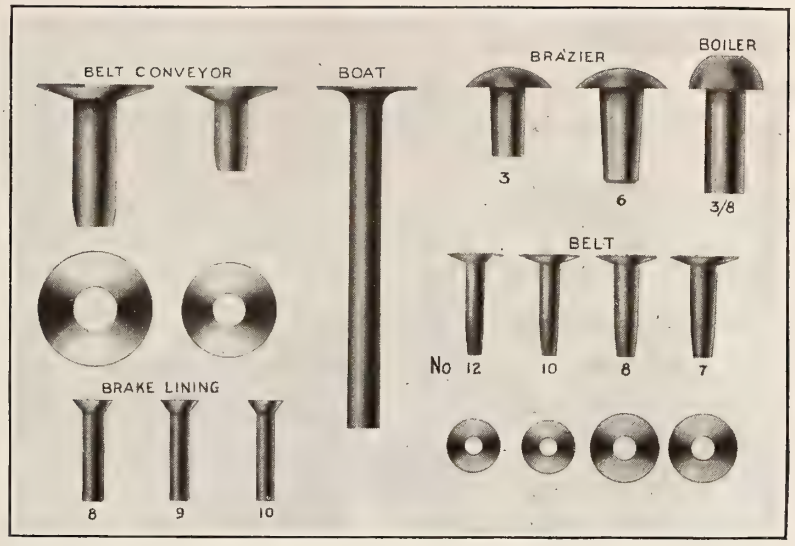


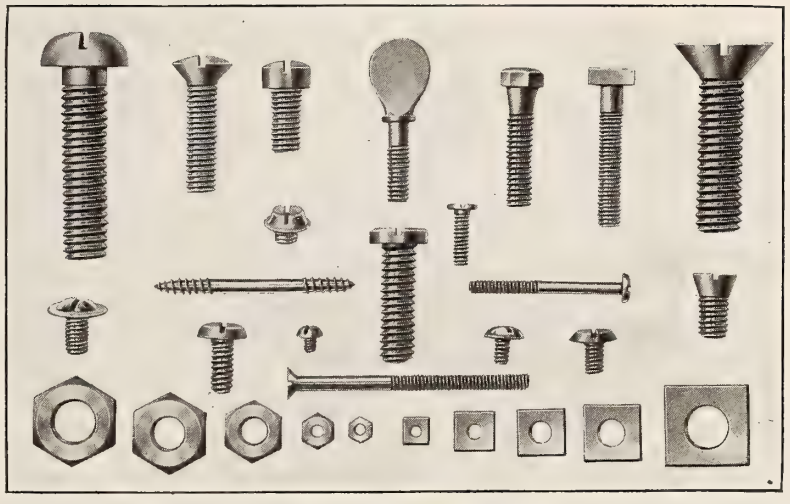
Pioneer Manufacturers of Machine Knives and Metal Cutting Shear Blades in Canada.
THE PETER HAY KNIFE CO., LIMITED
GALT, ONTARIO

MACHINE SCREWS - STANDARD - COPPER RIVETS

BRASS
BRONZE
STEEL

ROUND
FLAT
FILLISTER
BINDING
BUTTON
WASHER
HEADS
for
IMMEDIATE
SHIPMENT





WOOD
SCREWS

BELT
RIVETS
COPPER
NICKEL
SILVER
BRASS

BRAKE
LINING
BRAZIER
BOAT

THE STOWELL SCREW CO., LIMITED

290 ST. PAUL ST. WEST - - - - - - MONTREAL



CANADIAN CHICAGO BRIDGE AND IRON COMPANY
Limited
Bridgeburg, Ontario

ELEVATED STEEL TANKS
For Municipal, Railroad and Factory Service

Storage Tanks, Self-Supporting Steel Stacks and All Classes of Heavy Plate Metal Work

Write our nearest sales office to-day for prices, plans and specifications. Our catalogue No. 25 gladly mailed to you, upon request.

OFFICES:
Bridgeburg, Ont., Can., 121 Janet St.
Chicago, Ill., 2116 Old Colony Bldg.
New York, 3132 Hudson Terminal Bldg.

SHOPS:
Bridgeburg, Ontario
Greenville, Pa (Pittsburg District)
Chicago, Illinois

ESTABLISHED 1875

The Boiler Inspection and Insurance Co. of Canada

Continental Life Building, Toronto

Issues Policies of Insurance after a Careful Inspection of the Boilers Covering Loss or Damage to Property and Loss Resulting from Loss of Life and Personal Injuries. Policies Guaranteed by The Hartford Steam Boiler Inspection and Insurance Company.

Assets for Security of Policyholders, $4,552,020.43.

H. N. ROBERTS . . . . . President
OLAF E. GRANBERG . . . . Vice-President
JAMES P. BYRNE . . . . . Secretary
M. B. ROBINSON . . . . . Asst. Secretary

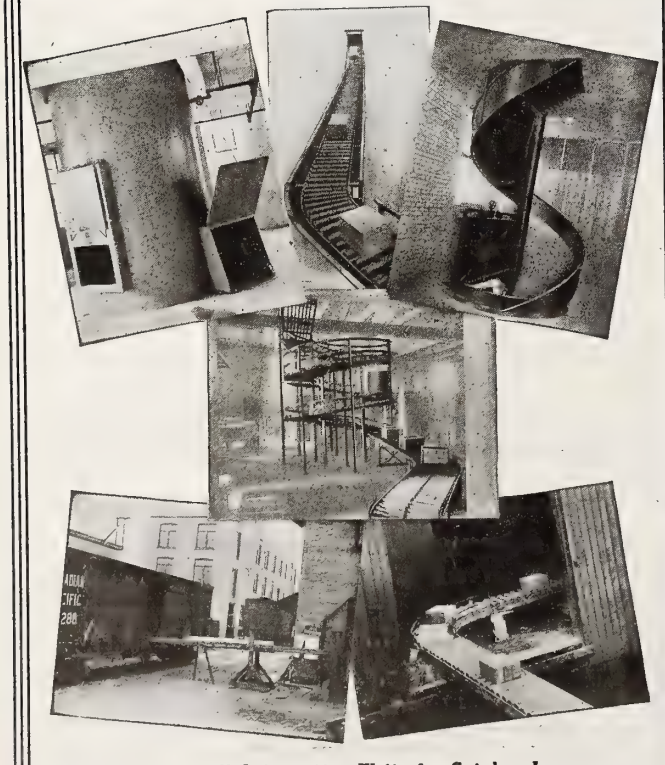
Northern Aluminum Company
Limited

Sales Office: 1305 Bank of Hamilton Bldg., Toronto

Works:
Shawinigan Falls, P.Q. Toronto, Ontario

ALUMINUM
Electrical Conductors
Sheet Ingot
Castings Rod
Tubing Special Shapes
Fabricated Articles

Send inquiries to
1305 BANK OF HAMILTON BUILDING
TORONTO



For Full Information Write for Catalog I
Canadian Mathews Gravity Carrier Co., Ltd.
PORT HOPE, ONT.

Appeal Dismissed

Unanimous Judgment of Court of Appeal Dismissed Action Against the Boeckh Company, Ltd., with Costs

It is interesting to note that the recent judgment handed down by the Court of Appeal affirms the judgment of the Trial Judge, dismissing the action brought against Messrs. The Boeckh Company, Ltd., to prevent their using the descriptive words "Rubber Set."

On another page of this paper the public is advised of this judgment in order that there may be no possibility of their being misled as to the right of Messrs. The Boeckh Company, Limited, using the words "Rubber Set" to indicate the process by which their genuine "Rubber Set" brushes are made.

The word Rubberset or the words "Rubber Set" are held to be the only words which accurately and absolutely describe how the brushes, which have a rubber setting, are made, and no person has, or can have, a monopoly in the use of such word or words.

Big Tannery Rebuilt

Plant of the Hastings Tanning Company, Limited, Restored After Big Fire

Reconstruction of the tannery of the Hastings Tanning Company, Limited, at Hastings, Ont., is now nearing completion. The old tannery was burnt down some time ago, and work on its re-erection was commenced last October. The Breithaupt Leather Co. of Kitchener, of which the Hastings Tanning Co. is a subsidiary, furnishes the following information about the new plant:—

"The new buildings are all of most substantial construction, being built of concrete blocks made on the premises, the walls being 16" thick. The main building is 200' x 130', two stories high and covers the main tannery, including beam house and tan yard on the ground floor, and drying space on the second floor.

"The rolling house and finishing department comprises a two-storey building, 60' x 160', and is nearing completion. The leach house and other buildings are under construction and it is expected that the buildings will all be completed and ready for operation in the near future.

"The tannery will be of first-class construction and equipment throughout with new and improved machinery of the latest type. This plant is built throughout, especially for the manufacture of 'Trent Valley Oak' sole leather, and will have a large capacity. The quality of the water of the Trent River is particularly well adapted for the production of this high-class oak sole leather.

"The company has its own water-power plant on the Trent River adjoining the tannery, which is available, without interruption throughout the whole year The tannery site along the river bank comprises a plot of land of somewhat over ten acres in extent. There will therefore be ample room for expansion to meet the growing demands of the home and foreign markets."

RIDOUT & MAYBEE
Solicitors of Patents
Counsel, Solicitors and Experts in
PATENT SUITS
Agencies in the leading countries of the World.
EDWARD MAYBEE, Mech. Eng. J. F. EDGAR, Counsel
KENT BLDG., YONGE STREET, TORONTO



CANADIAN WIRE ROPE

FOR

Ships' Rigging, Elevators, Cranes, Hawsers, Towing Lines, Etc.

MANUFACTURED BY

The DOMINION WIRE ROPE COMPANY, Limited

TORONTO - WINNIPEG - MONTREAL



QUALITY FIRST

GALT KNIFE CO., LIMITED

GALT - - - ONTARIO

THE CANADIAN BRIDGE CO., Limited

WALKERVILLE, ONTARIO

Montreal Office: New Birks Building

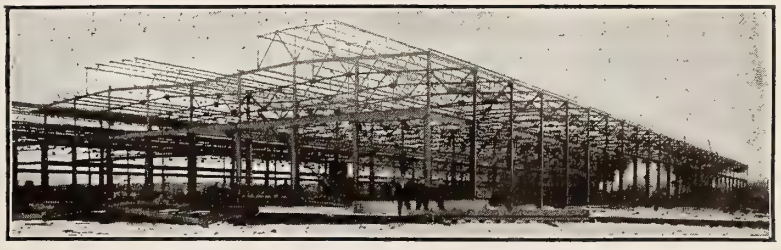
MANUFACTURERS

RAILWAY AND HIGHWAY BRIDGES

Locomotive Turn Tables. Roofs, Steel Buildings and Structural Iron Work of all Descriptions

STEEL FRAME BUILDINGS

Roof Trusses,
Columns,
Fire Escapes,
Stairs,
Ladders, etc.



Plain Steel
Shapes, I-Beams,
H-Beams,
Channels, Angles,
Tees, Zees and
Bars,
Plates and Sheets

THE MARITIME BRIDGE COMPANY, LIMITED

New Glasgow - Nova Scotia

Condensed Advertising

FOR SALE

Davis & Furber mule, 360 spindles, 2¼-inch gauge, 24 spool drums, 15 ends per spool. Machine in good condition. For full particulars apply Slingsby Mfg. Co., Ltd., Brantford, Ont.

WANTED

Freight Traffic Bureau Manager for commercial organization, Vancouver, Canada. Must have knowledge of Canadian and American Freight Classification and be able to prepare cases for presentation to Railway Commission. Apply Secretary, Board of Trade, Vancouver, Canada. Applications must be in before July 20th, 1919.

YOUNG CANADIAN

Young Canadian of high-class qualifications and with unusual record of Engineering and Business experience in Canada, United States and abroad, has proposal for strong, progressive Canadian Industrial or Commercial Interests planning development of Foreign Markets. Interview at any time or place before July 31st, 1919. Communicate Box 3600, INDUSTRIAL CANADA.

WANTED

Young man of good education wanted at once as assistant for Plant Manager of large manufacturing firm. Prefer one having some factory experience to enable him to check costs of production. This is a good position for a live man. Reply stating experience to Box 4000, INDUSTRIAL CANADA.

DU PONT CANADIAN INDUSTRIES

Free Upon Application

We will send you a copy of a booklet telling of the uses and advantages of

TRUCK SPECIAL

DU PONT FABRIKOID
REG. U. S. PAT. OFF.

A tough durable, grease and waterproof upholstering material for commercial motor trucks and vehicles

Write for this booklet on Truck Special

Du Pont Fabrikoid Company
Sales Office:
63 BAY ST. TORONTO

DU PONT

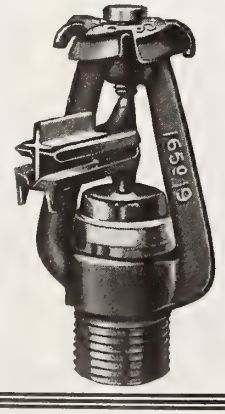
Now a Canadian Company

Announcement is made that S. F. Bowser Company, Limited, Toronto, has been reorganized to operate as a strictly Canadian organization, financed and managed under Canadian control. The company has for a number of years been manufacturing and selling Bowser gasoline and oil pumps, tanks and storage systems under the control of the parent company at Fort Wayne, Indiana. Their Canadian business has grown steadily from year to year, practically their entire Canadian trade being supplied from the Toronto factory. Last year total Canadian business exceeded half a million dollars.

Mr. H. C. Christie, who has been for a number of years connected with the Canadian factory of the Bowser Company, recently as sales manager, has been elected manager, with Mr. E. E. Cummings as factory manager. The other officers are: Mr. S. F. Bowser, president; Mr. S. B. Bechtel, vice-president; Mr. H. J. Grosvenor, secretary, and Mr. W. G. Zahrt, treasurer. The policy of the Bowser firm under the new management will be along the same lines as heretofore.

Commencing with June the company has begun the publication of a house organ called the *Bowser Boomer*. It tells all about the reorganization, gives a number of interesting illustrations of the Canadian works, and describes various lines manufactured therein.

CANADIAN COLLAPSIBLE TUBE CO., Limited
MANUFACTURERS OF
" Premier " Pure Tin, Plain and Decorated Collapsible Tubes
221 RICHMOND ST. WEST - - - TORONTO



Cheap Insurance

Remember that insurance does not cover loss of business and other tangible losses that follow a fire. The installation of Automatic Sprinklers cuts out over half your fire risk. The initial cost is the last cost—they are the cheapest insurance you can buy.

They pay for themselves in insurance premium reduction in about three years. Fire underwriters are so certain of this sprinkler's efficiency that they allow from 40% to 70% reduction in premium where it is installed. Remember an ounce of prevention is better than a pound of cure. Don't put it off. Write us now.

Puts Out FIRE Quickly

The Bennett & Wright Co., Ltd. - 72 Queen St. East, Toronto



SPRINKLER TANKS and TOWERS

also wood and steel tanks for Municipal, Railway and Suburban water supply.

All our tanks and towers are built to pass inspection of any Board of Fire Underwriters.

Send for special tank and tower catalogue.

GALVANIZING HOT AND ELECTRIC

We do all kinds of hot and electro galvanizing for the trade. Our plant is one of the largest in Canada and our charges reasonable.

Write us for quotations on your galvanizing work.

Ontario Wind Engine & Pump Co., Limited

TORONTO MONTREAL WINNIPEG CALGARY



Save Fifty TO Ninety Per Cent.

of your insurance premiums and eliminate all fire worries by having us protect your factory and its output with an

Automatic Sprinkler System

Your savings in insurance premiums buy the complete system on our participating plan.

CONSULT US

Heating and Power Plants

Designed, installed or remodelled to reduce your maintenance cost to a minimum.

Expert advice given in all branches of Plumbing, Heating and Sprinkler Work.

PURDY, MANSELL LIMITED

Engineers and Contractors

63 ALBERT ST. TORONTO, CAN.

T H-E

Looking ahead—with Hydro

How about the fuel situation next winter? Probably scarce. Probably dear. And the cost of labor—that's going up too. Two excellent reasons for you to look around your plant and see that it is really efficient at every point. That means using Hydro—for power and lighting.

The slack season is the time to prepare
We can help you. Phone Adelaide 2120

Toronto Hydro-Electric System

226-8 Yonge St. **Branch—Gerrard and Carlaw**

Canada-South Africa
Direct Service

Regular monthly sailings from Montreal in Summer and St. John, N.B., in Winter, calling at Cape Town, Algoa Bay (Port Elizabeth), East London, Port Natal (Durban) and Delagoa Bay in the order named.

Sailings 20th of each month.

All steamers fitted with refrigerators for the carriage of perishable freight.

For rates of freight and other information apply to

ELDER DEMPSTER & CO., Limited
133 BOARD OF TRADE BUILDING - - MONTREAL
Toronto Agent: S. J. SHARP, 79 Yonge St., Royal Bank Bldg.

THE
New Zealand Shipping Company Limited
CANADA
TO
Australia and New Zealand

Regular monthly sailings from Montreal in summer and St. John in winter, calling at Auckland, Wellington, Lyttelton and Dunedin (New Zealand) and Melbourne and Sydney (Australia). Sailings 20th of each month.

Through bills of lading issued to all points in Australia, New Zealand, Tasmania and other islands of Oceania.

Marine Insurance effected at rates equal to those given from New York.

For rates and other information apply to

The New Zealand Shipping Co.
LIMITED
213 Board of Trade Building, Montreal

CANADA'S TRADE IN THE ORIENT

This is an interview with a Canadian export merchant who had spent three months touring the markets of the Orient. In his opinion China offers a great market for Canada, and now is the time for this country to mould her Pacific trade with a view to capturing a large share of Chinese business.

(From the "Vancouver Sun.")

Among the passengers on the S.S. Empress of Russia who recently returned to Vancouver, was Charles S. Meek of the firm of Charles S. Meek & Company, Ltd., who has been on a three months tour of the Orient in connection with placing Canadian goods on the markets of the Far East.

Mr. Meek stated that he was never more impressed in his life than when he viewed the expansive field for business in the Orient and so close to Vancouver.

"The people of the great centres across the Pacific do not know there is a Canada, or if they do they attach about as much importance to it as we give to the area within the Arctic circle," said Mr. Meek. "Canada is part of the United States when you come to talk to the people of China, and the reason is that for every trade advocate Canada has in the Orient, there are thousands of men whose business houses are located in the United States.

"I spent days in Shanghai, strolled the docks and along the famous Bund, and the only indication I saw of Canadian goods being imported into that great commercial city, with its millions of people and hundreds of steamers loading and unloading, were lumber from the Dollar boats and Powell River pulp.

"Now is the time for the Canadian to sell his goods in China; it is China's buying time, as the Mexican dollar is worth double what it could bring a year ago. Consequently China is seeking all the goods she can get at present and taking advantage of the increase in the exchange."

The Canadian Commissioner

Mr. Meek expressed great regret at the fact that the Canadian Trade Commissioner is located in a little office in a most out-of-the-way place, and that practically nothing is known of the fact that Canada is a manufacturing country. "This is further regrettable," continued Mr. Meek, "in the face of the fact that the British Commercial Attache and his staff has done much to establish a bond of confidence between the British and the Chinese in all commercial dealings, and that the Attache is anxious to foster trade within the Empire; consequently Canada could benefit to a marked extent by the pioneering of the British authorities.

"We must give China what she wants, not what we want to give her," said Mr. Meek with emphasis. "Once established in the good graces of the Chinese through the agencies of his compradore—there is no receding as long as the goods and dealings are with that degree of honesty which the Chinese demand in all their commercial transactions."

Mr. Meek pointed out that during the war certain countries had lost the confidence of the Chinese merchants by substituting commodities for those of long standing trade and by depreciating the value of keeping every line of their commercial relationship up to the standard. Despite the fact that Britain was one of the most involved nations in the war, no receding was to be found in the class of goods shipped to China nor the honor with which she met her obligations with this exacting country. This, said Mr. Meek, is indirectly of great value to Canada and should be taken advantage of



For Muscalunge and Bass-N
the Ontario Resorts

BALA (Muskoka Lakes)
FRENCH RIVER (French and Pickerel Rivers)
POINT AU BARIL (Georgian Bay Resorts)
BOBCAYGEON (Kawartha Lakes)
SEVERN RIVER (Gloucester Pool)
BON ECHO (Lake Mazinaw)

are conveniently reached by the

CANADIAN PACIFIC RAILWAY

W. B. HOWARD,
District Passenger Agent,
Toronto

The Canadian Wood Turpentine—made at our mills at LaTuque, P. Q., is an excellent diluent and solvent and contains no free rosin.

Further information will gladly be sent upon request.

BROWN CORPORATION

Sales Office: *Portland, Maine, U. S. A.*

STEEL FACTORY EQUIPMENT



Steel Waste Paper Basket

Steel Shop Boxes, Foundry Boxes, Shelf Boxes, Shop Barrels, Stools, Oily Waste Cans, Garbage Cans

Gasoline Tanks and Pumps, Pressure Tanks, Storage Tanks, Smoke Stacks

Anything in Black or Galvanized Sheet Metal up to ⅛ thickness. Send blue print or rough drawing and get our prices.

Sheet Steel Sundries for the manufacturers is one of our specialties.

Write us.

The Steel Trough and Machine Co., Limited
Tweed, Ont., Canada

We Guarantee our
--SIZINGS--
to be absolutely clean

Our Vera Paper Size
is purest, strongest and highest free rosin size made

Our Vera Mill Size
is the best soluble paper makers' rosin size made. Ready to use in cold or warm water.

Our Vera Beater Size
Made especially to dump direct from the barrels into the Beaters, without first diluting it.

Our sizings are cleaned by our new patented process and we guarantee this size to be absolutely clean, without the least speck of impurity in the same, preventing thereby black specks in the paper.

We are shipping our size in barrels or tank-cars

Also manufacturers of—
VERA SOAP POWDER
for cleaning Felts, etc.
And VERA BOILER COMPOUND
Very effective and sold at a low price.

VERA CHEMICAL COMPANY
OF CANADA, LIMITED
FREEMAN P.O. - - ONTARIO

while the particular matters are still fresh in the minds of that great purchasing nation.

On his travels through the Far East, Mr. Meek found that he was the first general export merchant who had visited the East from Canada, and business men flocked from many outside points, when they heard he was in Hong Kong and Shanghai, to discuss other lines of goods with him than those which they were handling, in the hopes of expanding their trading capabilities and taking on additional lines of manufactured articles.

From Manila to Vladivostok, Vancouver's trade missionary found that much the same conditions existed, namely, Canada was nearly unknown, despite her advantageous location in relation to the Orient.

In the Philippines, Mr. Meek came to the conclusion that it will not be long before that little country will be given her independence, and will be governed entirely by her own people. "Then and not until then can any country but the United States do business with the people of these islands," said Mr. Meek.

Hong Kong being a British port was not a difficult place to do business in, and recently the demands from this district are increasing to an enormous figure.

At Vladivostok, Mr. Meek stated that the place is so far gone into degradation and uncleanliness that people are not anxious to do business, but he was strongly impressed with the possibilities of the country if General Kolchak can only bring about a settled Government.

Vast quantities of farm machinery and implements are lying all over the hills around Vladivostok with nothing but tarpaulins to keep the weather off, with the result that the waste is enormous. But at this point Mr. Meek paid a compliment to the masterful little Czecho-Slovak soldier who is doing his best to keep peace and order in a city of murders and robberies. Financial trading equilibrium and the Trans-Siberian Railway put into commission will do much to bring Vladivostok out of its chaotic condition.

"What about trade with Japan?" queried the *Sun* representative. "Canada need not look to Japan for much in the line of trade only in commodities and manufactured goods which it is absolutely impossible to grow or purchase in Japan. That country is now purchasing all the machinery possible to secure, and will soon be rushing huge quantities of manufactured articles onto the Pacific markets.

"China is our logical market," reiterated Mr. Meek, "and now is the time for Canada to mould her Pacific trade accordingly."

Canadian Converters

Earnings Continue to Expand from Year to Year in Satisfactory Way

The anual statement of the Canadian Converters Company, Limited, placed in the hands of the shareholders last month, showed that all previous records both as to earnings and financial strength have been broken. Earnings for the year ended April 30 last were $257,324, an increase of $39,435, or 18.5 per cent., over the showing in this respect in the 1917-18 period, and $53,320, or in excess of 26 per cent., over the previous fiscal year of the company. After deducting bond interest, depreciation allowance and setting aside the sum of $30,000 as a reserve for 1918 war tax and bad debts, there remained available for application to distribution on the outstanding stock of the enterprise $176,384, representing an earnings capacity of 10.2 per cent. on the shares, compared with 8.4 per cent. last year and 8 per cent. in the 1916-17 period.

DO YOU KNOW ?

When, Mr. Manufacturer, you are planning your campaigns and calculating your production, whose knowledge do you have of the wealth of the various divisions in Canada?

Do You Depend Upon Your Salesmen or Do You Know?

Have you visited the Maritime Provinces, the new north, the greater west, and the Pacific seaboard, and studied firsthand the possibilities for the spread of the sale of your products?

Get the National Idea!
Travel Canadian National!

Canadian National Railways

Principal Agencies in the nine provinces:—Halifax, N.S.; Moncton, N.B.; St. John, N.B.; Charlottetown, P.E.I.; Quebec, Que.; Montreal, Que.; Ottawa, Ont.; Toronto, Ont.; Port Arthur, Ont.; Winnipeg, Man.; Regina, Sask.; Saskatoon, Sask.; Prince Albert, Sask.; Edmonton, Alta.; Calgary, Alta.; Kamloops, B.C.; New Westminster, B.C.; Vancouver, B.C.; Victoria, B.C.

Buyers' Guide to Canadian Manufactures

List of Articles which will Enable the Purchaser to Know the Manufacturers of Made-in-Canada Goods. For Rates of Insertion in this Department write to the Advertising Manager of INDUSTRIAL CANADA, C.M.A., Toronto, Ont.

ABATTOIR MACHINERY AND SUPPLIES
*The John Whitfield Company, Toronto, Ont.

ABRASIVES
*Coralox, Limited, Hamilton, Ont.
*Canadian Hart Wheels, Limited, Hamilton, Ont.
*Dominion Abrasive Wheel Co., New Toronto, Ont.

ACCOUNT BOOKS
*The Brown Bros., Ltd., Toronto.

ACETYLENE GAS
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.

ACETYLENE GAS BURNERS
Economic Acetylene Burner Co., Toronto, Ont.
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.

ACIDS
*The Grasselli Chemical Co., Ltd., Toronto.
*The Nichols Chemical Co., Ltd., Montreal, Que.

ADVERTISING NOVELTIES
Lawson & Jones, Ltd., London, Ont.

AERATED BEVERAGES
Charles Gurd & Co., Ltd., Montreal, Que.
J. J. McLaughlin, Ltd., Toronto.

AIR COMPRESSORS
*Canadian Ingersoll-Rand Co., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

AIR DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

ALCOHOL
*Canadian Industrial Alcohol Company, Ltd., Montreal, Que.
Hiram Walker & Sons, Limited, Walkerville, Ont.

ALUMINUM
*Northern Aluminum Co., Ltd., 1805 Traders Bank, Toronto,

ALUMINUM CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

AMMONIA
Canadian Ammonia Co., Ltd., Toronto, Ont.

ANCHORS, all steel
Beauchemin & Fils, Ltd., Sorel, Que.

ANGLE BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*The Steel Company of Canada, Ltd., Hamilton, Ont.

ARSENIC
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.

ASBESTOS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS SHEATHING
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS SHEET AND PISTON PACKINGS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS STEAM PIPE AND BOILER COVERINGS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS TEXTILES
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ATTACHMENT PLUGS
*Crouse-Hinds Co., Ltd., Toronto.

AUTOGRAPHIC REGISTERS
*Autographic Register Co., Ltd., Montreal, Que.

AUTOGRAPHIC REGISTER SYSTEMS
Business Systems, Ltd., Toronto.

AUTOMOBILE ACCESSORIES
*McKinnon Industries Limited, St, Catharines, Ont.
*Northern Electric Co., Limited, Montreal, Que.
*Tallman Brass & Metal Co., Hamilton, Ont.

AUTOMOBILE PARTS
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.

AWNING CORD (cotton)
Hamilton Cotton Co., Hamilton, Ont.

AXLES
Canada Forge Co., Ltd., Welland, Ont.
Guelph Spring & Axle Co., Ltd., Guelph, Ont.

AXLES, carriage and automobile
Guelph Spring & Axle Co., Ltd., Guelph, Ont.

BABBITT METAL
Alonzo W. Spooner, Ltd., Port Hope, Ont.
*The Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BACON
E. W. Fearman Co., Ltd., Hamilton, Ont.

BAGS
*Scythes & Co., Ltd., Toronto.

BAGS, Cotton
The Canadian Bag Co., Limited, Montreal, Que.

BAGS, jute
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Ltd., Toronto.

BAGS, travelling
J. Eveleigh & Co., Ltd., Montreal.
Lamontague, Ltd., Montreal, Que.
The M. Langmuir Mfg. Co., of Toronto, Ltd., Toronto, Ont.

BAND RESAWS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

BAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

BANK FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.

BANK AND OFFICE RAILINGS AND CAGES
*Canada Wire and Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*The Geo. B. Meadows, Toronto, Wire, Iron & Brass Works Co., Ltd., Toronto, Ont.

BANK SIGNS AND FITTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

BARRELS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

BARS, iron
London Rolling Mill Co., Ltd., London, Ont.

BARS, steel
London Rolling Mill Co., Ltd., London, Ont.

BASEBALL GOODS
A. J. Reach Co., Brantford, Ont.

BATHS, enamelled
Amherst Foundry Co., Ltd., Amherst, N.S.

BATTERIES, dry
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BATTERIES, Flashlight
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BATTERIES, Storage
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BEARINGS
*The Chapman Double Ball Bearing Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BEARINGS, bronze
*Tallman Brass & Metal Co., Hamilton, Ont.

BEARINGS, pillow block and upright
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BEDS, camp folding
*Otterville Mfg. Co., Ltd., Otterville, Ont.

BEEF
E. W. Fearman Co., Ltd., Hamilton, Ont.

BELTING, chains
*Canadian Link-Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BELTING, elevator
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.

BELTING, leather
The Beardmore Belting Co., Ltd., Toronto, Ont.
*J. L. Goodhue & Co., Danville, Que.
*Sadler & Howarth, Montreal.
*The D. K. McLaren Belting Co., Ltd., Montreal, Que.
*The J. C. McLaren Belting Co., Ltd., Montreal, Que.

BELTING, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha and Rubber Ltd., Toronto, Ont.

BELTING, stitched cotton duck
*Dominion Belting Co., Ltd., Hamilton, Ont.

BENT GOODS
The Crown Lumber Co., Woodstock, Ont.

BICYCLES AND ACCESSORIES
*Canada Cycle and Motor Co., Ltd., Toronto, Ont.

BISCUITS
The Montreal Biscuit Co., Montreal, Que.

BLACK SHEETS
*A. C. Leslie & Co., Montreal, Que.

BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Ltd., Bolton, Ont,

BLANKETS, horse
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Ltd., Bolton, Ont.

BLASTING ACCESSORIES
Canadian Explosives, Ltd., Montreal, Que.

BLEACHING POWDER
Canadian Salt Co., Ltd., Windsor Ont.

BLOWERS
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

BOATS OF ALL KINDS
Peterboro Canoe Co., Ltd., Peterboro, Ont.

BOBBINS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.

BOILER COMPOUND AND OILS
Electric Boiler Compound Co., Ltd., Guelph, Ont.

BOILERS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Darling Bros., Montreal, Que.
*Goldie & McCulloch Co., Limited, Galt, Ont.
*Lauzon Engineering Ltd., Levis, Que.
J. & R. Weir, Montreal, Que.
Taylor-Forbes Co,, Ltd., Guelph,
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BOILERS, hot water or steam
Steel & Radiation Ltd., Toronto.
Warden King, Ltd., Montreal.

BOILERS, steam
Canadian Ingersoll-Rand Co., Sherbrooke, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BOILERS, steam and brass work
*The Waterous Engine Works Co., Ltd,, Brantford, Ont.

BOILER STANDS
Anthes Foundry Ltd., Toronto.

BOLSTERS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.

BOLTS AND NUTS
*The Canadian Tube & Iron Co., Ltd., Montreal, Que.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Company of Canada, Ltd., Hamilton, Ont.
Starr Mfg. Co., Ltd., Dartmouth, N.S.

BOOKBINDERS
R. G. McLean, Toronto.
*The Brown Bros., Ltd., Toronto.
The Mortimer Co., Ltd., Ottawa, Ont.

BOOKCASES
*Office Specialty Mfg. Co., Ltd,, Newmarket, Ont.

BOOKCASES, sectional (Gunn)
The George McLagan Furniture Co., Ltd., Stratford, Ont.

BOOKLETS
R. G. McLean, Toronto.

BOOKS, blank
*The Brown Bros., Ltd., Toronto.

BOOTS AND SHOES
Ames-Holden-McCready, Limited, Montreal, Que.
J. Leckie Co., Ltd.
The John Ritchie Co., Ltd., Quebec, Que.

BOXES
*Crouse-Hinds Co., Ltd., Toronto.

BOXES, cellular board
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls.

BOXES, rattle and soap
The Arlington Co. of Canada, Ltd., Toronto, Ont,

BOXES, steel shop
*Steel Trough and Machine Co., Ltd., Tweed, Ont.

BOXES AND SHOOKS, wooden
The C. Beck Mfg. Co., Ltd., Penatanguishene, Ont.

BOXES, wooden
G. & J. Esplen, Montreal, Que.
Barchard & Co., Ltd., Toronto.

BOXBOARDS, for making paper boxes
*Canada Boxboard Co., Limited, Montreal, Que.

BRAIDS AND TRIMMINGS
The Moulton Mfg. Co., Limited, Montreal, Que.

BRAKE SHOES
*Canadian Hart Wheels, Limited, Hamilton, Ont.

BRAKE SHOE BACKS
*The John Whitfield Company, Toronto, Ont.

BRANDS, burning
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

*For Display Advertisement see Index, Pages 295-296

BRASS BOLTS AND NUTS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS AND BRONZE WIRE
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

BRASS, BRONZE and ALUMINUM LETTERS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS ENGRAVERS
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

BRASS FOUNDERS AND FINISHERS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS GOODS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Mueller Mfg. Co,, Sarnia, Ont.
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
*The Kerr Engine Co., Limited, Walkerville, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS PLATES
Geo. Booth & Son, Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS RODS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS RODS, SHEETS AND PLATES
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

BRASS SHEETS AND PLATES
*Dominion Copper Products Company, Ltd., Montreal, Que.

BRASS SIGNS AND MEMORIALS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS TUBING, seamless
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Company, Ltd., Montreal, Que.

BRASS WIRE
Canadian Seamless Wire Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS WORK, church
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

BRASS WORK, special
Bawden Machine Co., Ltd., Toronto, Ont.
*H. Mueller Mfg. Co., Ltd., Sarnia, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BRICK
National Brick Co. of Laprairie, Laprairie, Que.
Port Credit Brick Co., Port Credit, Ont.
The Citadel Brick & Paving Block Co., Ltd., Quebec, Que.

BRICK, enamel
National Brick Co. of Laprairie, Laprairie, Que.

BRICK, pressed
National Brick Co. of Laprairie, Laprairie, Que.
The Citadel Brick & Paving Block Co., Ltd., Quebec, Que.

BRICK, rubbing
*Canadian Hart Wheels, Limited, Hamilton, Ont.

BRICK, sewer.
National Brick Co. of Laprairie, Laprairie, Que.

BRIDGES, Railway and Highway
*Hamilton Bridge Works Co., Ltd., Walkerville, Ont.
*The Canadian Bridge Co., Ltd., Hamilton, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
*Dominion Bridge Co., Montreal.
*Mackinnon Steel Co., Ltd., Sherbrooke, Que.
*Manitoba Bridge & Iron Works, Ltd., Winnnpeg, Man,

BROOMS
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Limited, Port Elgin, Ont.

BRONZE SHEETS AND PLATES
*Dominion Copper Products Company, Ltd., Montreal.

BRONZE SHEETS, RODS, PLATES
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

BRONZE TUBING, seamless
*Dominion Copper Products Company, Limited, Montreal,

BRUSHES
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Ltd., Port Elgin, Ont.

BRUSHES, carbon
Canadian National Carbon Co., Ltd., Toronto.

BUCKET TANKS
*MacKinnon Steel Co., Ltd,, Sherbrooke, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.

BUCKLES, shoe and coat
Parmenter & Bulloch Co., Limited, Gananoque, Ont.

BUCKLES, harness and trunk
*McKinnon Industries, Ltd., St. Catharines, Ont.

BUILDING BLOCKS, vitrified, salt glazed
Standard Clay Products, Ltd., St. Johns, Que.

BUILDING FELT AND PAPER
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont,
*The Barrett Co., Ltd., Toronto and Montreal.

BURLAPS
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Ltd., Toronto.

BURLAPS, decorative
Dominion Oil Cloth Co., Limited, Montreal, Que.

CABLE ACCESSORIES
*Crouse-Hinds Co., Ltd., Toronto.

CABLES, electric light, power, telephone and telegraph
*Standard Underground Cable Co. of Canada, Ltd,, Hamilton, Ont.

CABLES, transmission and telephones
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.

CABLES, transmission and cable
*Northern Electric Co., Ltd., Montreal, Que.

CABLES, wire
The Dominion Wire Rope Co., Ltd., Montreal, Que.
*The B. Greening Wire Co., Ltd., Hamilton, Ont.

CALENDARS, ADVERTISING NOVELTIES, etc.
Lawson & Jones, Ltd., London.

CAMERAS
Canadian Kodak Co., Ltd., Toronto, Ont.

CAMPERS' OUTFITTERS
Slingsby Mfg. Co., Ltd., Brantford, Ont.

CANADA SILVER
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

CANOES
Peterboro Canoe Co., Ltd., Peterboro, Ont.
*Canadian Canoe Co., Ltd., Peterboro, Ont.

CANS, baking powder, etc.
American Can Co., Montreal (Que.) and Hamilton (Ont.).
A. R. Whittall Can. Co., Ltd., Montreal, Que.
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANS, fruit
American Can Co., Montreal (Que.) and Hamilton (Ont.).
A. R. Whittall Can. Co., Ltd., Montreal, Que.
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANS, iron, lead and putty
A. R. Whittall Can. Co., Ltd., Montreal, Que.

CANS, tin
A. R. Whittall Can Co., Ltd., Montreal, Que.
American Can Co., Montreal (Que.) and Hamilton (Ont.).
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANVAS
*Scythes & Co., Ltd., Toronto, Ont.

CAPS, cloth
John W. Peck & Co., Ltd., Montreal, Que.

CAPS FOR HUBS
*McKinnon Industries, Ltd., St. Catharines, Ont.

CARBIDE
*Canada Carbide Co., Ltd., Montreal, Que.
*Union Carbide Co. of Canada, Ltd. Works, Welland, Ont. Head Office, Toronto, Ont.

CARBONS, electric
Canadian National Carbon Co., Ltd., Toronto, Ont.

CARBONS (headlight)
*Crouse-Hinds Co., Ltd., Toronto.

CARBONIC ACID GAS
Canadian Carbonate Co., Montreal.

CARD RECORD SYSTEMS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

CARPETS AND RUGS
Toronto Carpet Mfg. Co., Limited, Toronto.

CARPETS AND RUGS, Axminster and ingrain
Toronto Carpet Mfg. Co., Ltd.

CARPETS AND RUGS, Brussels and Wilton
Toronto Carpet Mfg. Co., Ltd., Toronto, Ont.

CARPET YARNS, worsted and wool
Toronto Carpet Mfg. Co., Ltd., Toronto, Ont.

CARRIAGE CASTINGS
*McKinnon Industries, Ltd., St. Catharines, Ont.

CARRIAGES, baby, etc.
Canada Furniture Manufacturers. Ltd., Woodstock, Ont.

CARRIERS
*Richards-Wilcox Canadian Co., Ltd., London, Ont.

CARRIERS, box and barrel
*Canadian Mathews Gravity Carrier.

CARRIERS, brick
*Canadian Mathews Gravity Carrier Co., Limited, Toronto.
*Richards-Wilcox Canadian Co., Ltd., London, Ont.

CARS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*National Steel Car Co., Ltd., Hamilton, Ont.

CARS, industrial
Hammant Steel Car & Engineering Works, Hamilton, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.

CARTONS, lithographed
Harris Lithographing Co., Ltd., Toronto, Ont.

CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, aluminum
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, brass
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Lauzon Engineering, Ltd., Levis, Que.
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, brass and bronze
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, grey iron
*Canadian Rumely Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Dodge Mfg. Co., Toronto.
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Wm. Kennedy & Sons, Ltd., Owen Sound, Ont.
*Lauzon Engineering, Ltd., Levis, Que.

CASTINGS, malleable iron
*Crouse-Hinds Co., Ltd., Toronto.
*Galt Malleable Iron Co., Ltd., Galt, Ont.

CASTINGS, steel
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Founderies, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton, Ont.
*Hull Iron & Steel Foundry, Ltd., Hull, P.Q.
*Wm. Kennedy & Sons, Ltd., Owen Sound, Ont.

CATALOGUE MAKERS
Grip, Ltd., Toronto, Ont.

CATALOGUE COVERS, by new lithographing process
Harris Lithographing Co., Ltd., Toronto, Ont.

CAUSTIC SODA
Canadian Salt Co., Ltd., Windsor.

CAUSTICS
*Dominion Oil Co., Ltd., Hamilton.

CELLBOARD
Adams Cellboard Co., Toronto.

CEMENT GUNS
Steel & Radiation, Ltd., Toronto.

CENTRIFUGAL PUMPS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

CHAINS, for elevators, conveyors and drives
*Canadian Link-Belt Co., Toronto.

CHAINS, sling
*The John Whitfield Co., Toronto.

CHAIRS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

CHAIRS, assembly hall
Stratford Mfg. Co., Ltd., Stratford, Ont.

CHAIRS, folding
Stratford Mfg. Co., Ltd., Stratford, Ont.

CHAIRS, rattan and upholstered
Imperial Rattan Co., Ltd., Stratford, Ont.

CHAIRS FOR AUTOMOBILES, camp, boat
*McKinnon Industries, Ltd., St. Catharines, Ont.

CHECKS, swing checks, etc.
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

CHEMICALS
Canadian Laboratory Supplies, Ltd., Toronto, Ont.
*Dominion Oil Co., Ltd., Hamilton, Ont.
*The Grasselli Chemical Co., Ltd., Toronto, Ont.
*The Nichols Chemical Co., Ltd., Montreal, Que.

CHEMISTS, industrial
*Milton Hersey Co., Montreal.

CHICLETS AND CHEWING GUM
Canadian Chewing Gum Co., Ltd., Toronto, Ont.

CIGARETTES AND TOBACCO
Philip Morris & Co., Ltd., Montreal, Que.

CIRCULAR CUTTERS, solid steel
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Ltd., Galt, Ont.

CIRCULAR SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

CLAM SHELL BUCKETS
*M. Beatty & Sons, Ltd., Welland, Ont.

CLOCKS, time
*International Business Machines Co., Ltd., Toronto.

CLOCKS, watchmen's
*The Bennett & Wright Co., Ltd., Toronto, Ont.

CLOSET SEATS
*Goderich Organ Co., Goderich,Ont.

CLOTHING
John W. Peck & Co., Ltd., Montreal, Que.

CLOTHING, leather and sheepskin lined coats
*A. R. Clarke & Co., Ltd., Toronto.

CLOTHING, Mackinaw
The Carss Mackinaw Clothing Co., Ltd., Orillia, Ont.

CLOTHES LINES, cotton
Hamilton Cotton Co., Hamilton, Ont.

CLUTCHES
*Dodge Mfg. Co., Ltd., Toronto.

CLUTCHES, conveyors
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

*For Display Advertisement see Index, Pages 295-296

COAL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
Standard Fuel Co., Toronto, Ont.

COAL CUTTERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal.

COBALT OXIDE
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
The Coniagas Reduction Co., Ltd., St. Catharines, Ont.

COBALT METAL
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.

COFFEE
S. H. Ewing & Sons, Montreal.

COLD DRAWN SHAPES, flats, squares and hexagons
*The Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.

COLD STORAGE DOORS
John Hillock & Co., Ltd., Toronto.

COLLAR BUTTONS
The Arlington Co. of Canada, Ltd., Toronto, Ont.

COLLARS
The Standard Shirt Co., Ltd., Montreal, Que.

COLLARS, coated linen
Parsons & Parsons Canadian Co., Hamilton, Ont.

COLLARS, shaft
Bond Engineering Co., Toronto.

COLORS
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal.

COMBS, fine dressing and name
The Arlington Co. of Canada, Ltd., Toronto, Ont.

COMMERCIAL STATIONERY
*Brown Bros., Ltd., Toronto, Ont.

CONCRETE COATINGS, PAINTS, Etc.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.

CONDUITS FOR INTERIOR WIRING
*Conduits Co., Ltd., Toronto, Ont.

CONDULET BOX FITTINGS
*Crouse-Hinds Co., Ltd., Toronto.

CONDULETS (marine)
*Crouse-Hinds Co., Ltd., Toronto.

CONFECTIONERY
Ganong Bros., Ltd., St. Stephens, N.B.
Moirs, Ltd., Halifax, N.S.
The Montreal Biscuit Co., Montreal, Que.

CONTAINER BOARD—strong container
Bathurst Lumber Co., Ltd., Bathurst, N.B.

CONTRACTOR'S PLANT
*M. Beatty & Sons, Ltd., Welland, Ont.
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
Canadian Ingersoll-Rand Co., Sherbrooke, Que.

CONVEYORS
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.

COPPER
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.

COPPER, SHEETS, PLATES, BARS, RODS
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto, Ont.

COPPER SHEETS AND PLATES
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Co., Ltd., Montreal, Que.

COPPERSMITHS
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.

COPPER TUBING, seamless
*Dominion Copper Products Co., Ltd., Montreal, Que.
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.

COPPER WIRE
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

CORKS
S. H. Ewing & Sons, Montreal, Que.

CORK CARPET
Dominion Oil Cloth Co., Ltd., Montreal, Que.

CORRUGATED PAPER BOXES
Adams Cellboard Co., Toronto.
Corrugated Paper Box Co., Ltd., Toronto, Ont.
*Hinde & Dauch Paper Co., Toronto, Ont.
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.

CORUNDUM, artificial
*Coralox, Ltd., Hamilton, Ont.

CORSETS
Dominion Corset Co., Quebec, Que.

COTTONS
*Dominion Textile Co., Ltd., Montreal, Que.
*Montreal Cottons, Ltd., Valleyfield, P.Q.

COTTONADES
Hamilton Cotton Co., Hamilton, Ont.

COUPLERS
*Canadian Steel Foundries, Ltd., Welland, Ont.

COUPLINGS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.

CRANES
*Northern Crane Works, Walkerville, Ont.
*The Herbert Morris Crane and Hoist Co., Ltd., Niagara Falls, Ont.

CRANKSHAFTS
Canada Forge Co., Ltd., Welland, Ont.
*The John Whitfield Co., Toronto, Ont.

CREAM CHEESE, Ingersoll
The Ingersoll Packing Co., Ltd., Ingersoll, Ont.

CREAM SEPARATORS AND MILK CLARIFIERS
De Laval Dairy Supply Co., Peterboro, Ont.
The Renfrew Machinery Co., Ltd., Renfrew, Ont.

CREAMERY AND CHEESE FACTORY MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.

CREOSOTED MATERIALS
*The Barrett Co., Ltd., Toronto and Montreal.

CRUCIBLES, plumbago
Dominion Crucible Co., Ltd., Montreal, Que.

CRUSHED STONE
The Hagersville Contracting Co., Ltd., Hagersville, Ont.

CUPOLAS
*Sheldons, Ltd., Galt, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.

CUPS, presentation
Standard Silver Co., Toronto, Ont.

CURLED HAIR
*Delany & Pettit, Ltd., Toronto.

CURTAINS, chenille
Hamilton Cotton Co., Hamilton, Ont.

CUTLERY
Standard Silver Co., Toronto, Ont.

CUTTERS, machine
*Pratt & Whitney Co., Dundas, Ont.

DASHES, for buggy and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.

DECALCOMANIA TRANSFERS
Canada Decalcomania Co., Toronto, Ont.

DECK PLUGS, electric marine
*Crouse-Hinds Co., Ltd., Toronto.

DENIMS
Hamilton Cotton Co., Hamilton, Ont.

DERAILS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.

DESIGNERS
Ontario Engraving Co., Hamilton, Ont.

DESIGNERS AND PRINTERS OF BOOKLETS, Etc.
Grip, Ltd., Toronto, Ont.

DESKS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

DESICCATED VEGETABLES
Grahams, Ltd., Belleville, Ont.

DINING ROOM SUITES
The George McLagan Furniture Co., Ltd., Stratford, Ont.

DIES
*Butterfield & Co., Rock Island, P.Q.
*Pratt & Whitney Co., Dundas, Ont.
*John Whitfield Co., Toronto.

DISINFECTING APPARATUS
Spramotor Co., London, Ont.

DOOR HANGERS
*Richards Wilcox Canadian Co., Ltd., London, Ont.

DOUBLETREES
*McKinnon Industries, Ltd., St. Catharines, Ont.

DREDGES
*M. Beatty & Sons, Ltd., Welland, Ont.

DRESSING, belt
Sadler & Haworth, Montreal, Que.

DRESS AND CLOAK TRIMMINGS
J. Henry Peters Co., 1 Mincing St., Toronto, Ont.

DRIFT BOLT DRIVERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

DRILL PRESSES
*Canada Machinery Corporation, Ltd., Galt, Ont.

DRILL SHARPENERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

DRILLS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*Pratt & Whitney Co., Dundas, Ont.

DRILLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

DRILLS, rock
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

DRIFT BOLTS OR SPIKES
London Rolling Mill Co., Ltd., London, Ont.

DROP FORGINGS.
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.

DROP HAMMERS
*Canada Machinery Corporation, Ltd., Galt, Ont.

DRUMS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

DRY COLORS
P. D. Dods & Co., Ltd., Montreal.
The Imperial Varnish & Color Co., Ltd., Toronto.
R. C. Jamieson & Co., Ltd., Montreal, Que.
Standard Paint & Varnish Co. Ltd., Windsor, Ont.

DUMB WAITERS
Turnbull Elevator Mfg. Co., Toronto, Ont.

DURABLE WIRE ROPE
The Dominion Wire Rope Co., Ltd., Montreal, Que.

DYNAMITE
Canadian Explosives, Ltd., Montreal, Que.

DYNAMOS
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.

DYNAMOS, plating
*Jones & Moore Electric Co., Ltd., Toronto, Ont.

EIDERDOWN
Galt Knitting Co., Ltd., Galt, Ont.

ELECTRIC APPLIANCES
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.

ELECTRICAL COMPOUNDS
Standard Paint Co. of Canada, Ltd., Montreal, Que.

ELECTRIC COOKING APPLIANCES
*Canadian General Electric Company, Ltd., Toronto.

ELECTRIC LAMPS
Packard Electric Co., Ltd., Toronto, Ont.

ELECTRIC PLATE WARE
Roden Bros., Ltd., Toronto, Ont.

ELECTRIC BRANDING TOOLS
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.

ELECTRIC RAILWAY EQUIPMENT
*Crouse-Hinds Co., Ltd., Toronto.

ELECTRODES, carbon
Canadian National Carbon Co., Ltd., Toronto, Ont.

ELECTROPLATING
Central Press Agency, Toronto.

ELECTRICAL SUPPLIES
*Canadian General Electric Company, Ltd., Toronto, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
*Jones & Moore Electric Co., Ltd.,
*Northern Electric Co., Ltd., Montreal, Que.

ELECTRIC SOLDERING IRON
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.

ELECTRO-SILVER PLATED WARE
Standard Silver Co., Toronto, Ont.

ELEVATING MACHINERY
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto, Ont.

ELEVATORS
*Jenckes Machine Co., Sherbrooke, Que.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
Turnbull Elevator Mfg. Co., Toronto, Ont.
*The Waterous Engine Works Co., Ltd,, Brantford, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.

ELEVATORS FOR ALL PURPOSES
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

ELEVATOR GATES AND DOORS
Turnbull Elevator Mfg. Co., Ltd., Toronto, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

ELEVATOR GUARDS
*The Geo. B. Meadows, Toronto.
Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
*Canada Wire and Iron Goods Co., Hamilton, Ont.

EMERY DRESSERS AND STANDS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.

EMERY GRINDERS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.

EMERY WHEELS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.

EMERY WHEEL GUARDS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.

ENAMELS
R. C. Jamieson & Co., Ltd., Montreal, Que.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.

ENAMEL MANUFACTURERS AND DECORATORS
Standard Paint & Varnish Co., Ltd., Windsor, Ont.

ENAMEL AND TIN WARE
McClary Mfg. Co., London, Ont.

ENGINES
*E. Leonard & Sons, London, Ont.
*Goldie & McCulloch Co., Lt., Galt, Ont.
J. & R. Weir, Montreal, Que.
*Lauzon Engineering, Ltd., Levis, Que.
*Sheldons, Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

ENGINES, gas and gasoline
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*Hamilton Motor Works, Ltd., Hamilton, Ont.
*Massey-Harris Co., Ltd., Toronto.

ENGINES, gasoline, tractor, plowing and threshing
*Sawyer-Massey Co., Ltd., Hamilton, Ont.

ENGINES, hoisting
*M. Beatty & Sons, Welland, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

*For Display Advertisement see Index, Pages 295-296

ENGINES, marine, gasoline and kerosene
Bruce, Stewart & Co., Ltd., Charlottetown, P.E.I.
ENGINES, steam plowing and threshing
*Sawyer-Massey Co., Ltd., Hamilton, Ont.
ELECTRICAL AND GAS FIXTURES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
*Tallman, Brass & Metal Co., Hamilton, Ont.
ELECTRIC HEATING APPLIANCES
*Canadian General Electric Co., Ltd., Toronto, Ont.
ENGRAVERS, photo
Grip, Ltd., Toronto, Ont.
Ontario Engraving Co., Hamilton, Ont.
The Mortimer Co., Ltd., Ottawa.
ENGRAVERS, half-tone
Grip, Ltd., Toronto.
Ontario Engraving Co., Hamilton, Ont.
ENGRAVERS, wood
Ontario Engraving Co., Hamilton, Ont.
ENGRAVERS AND PRINTERS steel plate
American Bank Note Co., Ottawa, Ont.
ENGRAVERS AND PRINTERS bank note
American Bank Note Co., Ottawa, Ont.
ENGRAVING
*J. L. Jones Engraving Co., Toronto, Ont.
ENGRAVING, copper and steel plate
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
ENSILAGE AND STRAW CUTTERS
J. Fleury's Sons, Aurora, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
EVAPORATED APPLES
Grahams, Ltd., Belleville, Ont.
ENVELOPES
Barber-Ellis Co., Ltd., Toronto.
Canada Envelope Co., Montreal, Que.
EVENERS, for 2, 3, 4, 6 and 8 horses
*McKinnon Industries, Ltd., St. Catharines, Ont.
EXCELSIOR
*Delany & Pettit, Ltd., Toronto.
EXCELSIOR PADS
Parmenter & Bulloch Co., Ltd., Gananoque, Ont.
EXPERTS IN PATENT CAUSES
Ridout & Maybee, Toronto, Ont.
EXPLOSIVES, high
Canadian Explosives, Ltd., Montreal, Que.
FACE PLATE JAWS
Ker & Goodwin, Brantford, Ont.
FACTORY SUPPLIES, cheese and creamery
De Laval Dairy Supply Co., Ltd., Montreal, Que.
FANS
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
FASTENERS, belt
*Sadler & Haworth, Montreal, Que.
FELTS, pulp and paper makers
Ayers, Ltd., Lachute Mills, P.Q.
*Beveridge Paper Co., Ltd., Montreal, Que.
FENCES AND GATES
*Dennis Wire & Iron Works Co., London, Ont.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
FENCING AND GATES, woven wire
*Canada Wire and Iron Goods Co., Hamilton, Ont.
FENCING, wire
C. H. Johnson & Sons, Ltd., Montreal, Que.
FENDERS, for buggy and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
FIBRE PAILS
*The E. B. Eddy Co., Ltd., Hull, Que.

FILES
Henry Disston & Sons, Ltd., Toronto, Ont.
*The Nicholson File Co., Port Hope.
FILING CABINETS
*Office Specialty Co., Newmarket, Ont.
FILING EQUIPMENT, wood & steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
FILING SYSTEMS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
Lowe-Martin Co., Ltd., Ottawa, Ont.
FIRE ALARMS
*Northern Electric Co., Ltd., Montreal, Que.
FIRE BRICK
Dominion Fire Brick & Clay Products, Ltd., Moose Jaw, Sask.
FIRE BRICK AND CLAY
Dominion Fire Brick & Clay Products, Ltd., Moose Jaw, Sask.
FIRECLAY
Jas. W. Foley & Co., St. John, N.B.
FIRE DOOR HARDWARE
Richards Wilcox Canadian Co., Ltd., London, Ont.
FIRE DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People, Ltd., Oshawa, Ont.
FIRE ENGINES
*Waterous Engine Works Co., Ltd., Brantford, Ont.
FIRE ESCAPES
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
FIRE EXTINGUISHERS
*A. B. Ormsby Co., Ltd., Toronto.
*Booth-Coulter Copper & Brass Co., Ltd., Montreal, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
FIRE FIGHTING APPARATUS
*Waterous Engine Works Co., Ltd., Brantford, Ont.
FIRE HOSE
*Canadian Consolidated Rubber Co. of Canada, Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber, Ltd., Toronto, Ont.
FIRE PREVENTION MATERIAL
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*Eureka Mineral Wool & Asbestos Co., Toronto.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
FIRE PROOF WINDOWS AND DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
FIRE SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy Mansell Co., Toronto, Ont.
*H. G. Vogel Co., Montreal, Que.
FIRE AND WATER DEPARTMENT
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
The Garth Co., Montreal, Que.
FISH, Atlantic Sea-Foods
Maritime Fish Corporation, Ltd., Montreal, Que.
FITTINGS FOR SOIL PIPE
Anthes Foundry, Ltd., Toronto.
FITTINGS, steam
Warden King Ltd., Montreal, Que.
FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.
FLAGS
*Scythes & Co., Ltd., Toronto, Ont.
FLANGES, for wheels
*McKinnon Industries, Ltd., St. Catharines, Ont.
FLOODLIGHTS, electric
*Crouse-Hinds Co., Ltd., Toronto.
FLOORING, hardwood
Seaman Kent Co., Ltd., Meaford, Ont.
FLOUR MILL MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
FLUE LINERS
Standard Clay Products, Ltd., St. Johns, Que.

FORGES
*Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
*Sheldons, Ltd., Galt, Ont.
FORGINGS
Canada Forge Co., Ltd., Welland, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
*The John Whitfield Co., Toronto.
FORGINGS, drop
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
FOUNDRY EQUIPMENT
*Northern Crane Works, Ltd., Walkerville, Ont.
FOUNTAIN FRUITS AND JUICES
J. J. McLaughlin, Ltd., Toronto.
FOUNTAINS, drinking
*Mueller Mfg. Co., Ltd., Sarnia, Ont.
FRICTION CLUTCH PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.
FROGS AND CROSSINGS, manganese
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.
FUEL
Standard Fuel Co., Toronto, Ont.
FUR GARMENTS, men's and women's
Holt, Renfrew, Ltd., Quebec.
FUR GOODS
John W. Peck & Co., Ltd., Montreal, Que.
FUR TRIMMINGS, ornaments and buttons
J. Henry Peters Co., 1 Mincing St., Toronto, Ont.
FURNACES
McClary Mfg. Co., London, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
FURNITURE, hall
The George McLagan Furniture Co., Ltd., Stratford, Ont.
FURNITURE, office
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.
FURNITURE, reed and rattan
Imperial Rattan Co., Ltd., Stratford, Ont.
FUSE BOXES
*Crouse-Hinds Co., Ltd., Toronto.
FUSE PLUGS AND FUSES, refillable
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
FUSES
*Economy Fuse & Mfg. Co., Montreal, Que.
GALVANIZED IRON
*A. C. Leslie & Co., Montreal.
GALVANIZED SHEETS
*Dominion Sheet Metal Co., Hamilton, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
GALVANIZERS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*The Pedlar People, Ltd., Oshawa.
*McKinnon Industries, Ltd., St. Catharines, Ont.
GASOLINE ENGINES
*Ontario Wind & Pump Co., Ltd., Toronto, Ont.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
GASOLINE FIRE ENGINES
*Waterous Engine Works Co., Ltd., Brantford, Ont.
GASOLINE STORAGE SYSTEMS, special underground
S. F. Bowser & Co., Toronto.
*Steel Trough & Machine Co., Ltd., Tweed, Ont.
GASOLINE
*The Imperial Oil Co., Ltd., Toronto, Ont.
GAUGES
*Brown Engineering Corporation, Toronto, Ont.
*John Whitfield Co., Toronto.

GEARS, cut
*Brown Engineering Corporation, Toronto, Ont.
*Hamilton Gear and Machine, Toronto.
*Winnipeg Gear & Engineering Co., Ltd., Winnipeg, Man.
*The John Whitfield Co., Toronto.
GELATINE
Canada Gelatine Co., Ltd., Brantford, Ont.
GENERATORS
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
GENERATORS, electric
*Canadian General Electric Co., Ltd., Toronto.
GILDING METAL
*Dominion Copper Products Co., Ltd., Montreal, Que.
GLASSWARE
Dominion Glass Co., Ltd., Montreal, Que.
GLASSWARE, cut
Roden Bros., Ltd., Toronto.
GLASS FOR BUILDINGS
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLASS BENDERS
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLASS, mirror
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLOVES AND MITTS
*A. R. Clarke & Co., Ltd., Toronto.
Craig, Cowan Co., Ltd., Toronto.
GLUE
Canada Glue Co., Ltd., Brantford, Ont.
*Delany & Pettit, Ltd., Toronto.
GOLD-FILLED WIRE AND PLATE
Canadian Seamless Wire Co., Toronto, Ont.
GOLD AND SILVER REFINERS
Canadian Seamless Wire Co., Toronto, Ont.
GRAIN CRUSHERS, rapid, easy
J. Fleury's Sons, Aurora, Ont.
GRAPE JUICE
J. J. McLaughlin, Ltd., Toronto.
The Welch Co., Ltd., St. Catharines, Ont.
GRATES
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
GRAVITY CARRIERS
*Canadian Mathews Gravity Carrier Co., Toronto, Ont.
GREASES
*Dominion Oil Co., Ltd., Hamilton, Ont.
GRILLES, metal
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
GRINDER, bench
Bond Engineering Co., Toronto.
GRINDERS, portable
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
GRINDERS, pedestal and bench
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
GRINDING AND POLISHING MACHINERY
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
GRINDING WHEELS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
*The Dominion Abrasive Wheel Co., Ltd., New Toronto, Ont.
GRINDSTONES
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
GUARDS, conduit
*Crouse-Hinds Co., Ltd., Toronto.
GUNN SECTIONAL BOOKCASES
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
GUY ANCHORS
B. J. Coghlin Co., Ltd., Montreal.
GUL RODS
*Crouse-Hinds Co., Ltd., Toronto.
GYPSUM, crushed
*Albert Mfg. Co., Hillsborough, N.B.
GYPSUM PRODUCTS
*Manitoba Gypsum Co., Ltd., Winnipeg, Man.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.

*For Display Advertisement see Index, Pages 295-296

HACK SAW BLADES AND FRAMES
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HACK SAW MACHINES
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HALL FURNITURE
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
HAMS
F. W. Fearman Co., Ltd., Hamilton, Ont.
HAMES, steel and iron
*McKinnon Industries, Ltd., St. Catharines, Ont.
HANDLES (axe, pick, sledge hammers, etc.)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.
HANDLES, wood
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
*Toy products, Ltd., Farm Point, Que.
HAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HANGERS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
HARDWARE
*Richards - Wilcox Canadian Co., Ltd., London, Ont.
Taylor-Forbes Co., Ltd., Guelph, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
HARNESS
Lamontagne, Ltd., Montreal, Que.
HATS, men's straw
The Crown Hat Co., Ltd., Galt, Ont.
HARNESS HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.
HATS, ladies' and children's straw
The Crown Hat Co., Ltd., Galt, Ont.
HATS, ladies' and children's felt and beaver
The Crown Hat Co., Ltd., Galt, Ont.
HATS, ladies' felt and straw
Toronto Hat Mfg. Co., Toronto.
HAULAGE, wire rope
The Dominion Wire Rope Co., Ltd., Montreal, Que.
HEADING SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HEADLIGHT, electric
*Crouse-Hinds Co., Ltd., Toronto.
HEATERS
*Waterous Engine Works Co., Ltd., Brantford, Ont.
HEATERS, feed water
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
HEATING APPLIANCES
*C. A. Dunham Co., Ltd., Toronto.
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
HEATING SYSTEMS
*C. A. Dunham Co., Ltd., Toronto.
HEMLOCK, union and oak sole
Breithaupt Leather Co., Ltd., Kitchener, Ont.
HESSIANS
The Canadian Bag Co., Ltd., Montreal, Que.
*Scythes & Co., Ltd., Toronto.
HINGES
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
HOISTS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOISTS, electric and pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOISTING MACHINERY
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOOKS, for logging chains
*McKinnon Industries, Ltd., St. Catharines, Ont.
HOSE, fire
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber, Ltd., Toronto, Ont.
HOSE, half, Imperial
Kingston Hosiery Co., Ltd., Kingston, Ont.
HOSE, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd.
HUB CAPS
*McKinnon Industries, Ltd., St. Catharines, Ont.
HUBS, for Ford cars
*McKinnon Industries, Ltd., St. Catharines, Ont.
HYDRAULIC PRESSES
*Bawden Machine Co., Ltd., Toronto, Ont.
*William R. Perrin, Ltd., Toronto
HYDRO-ELECTRIC PLANTS
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
ICE CREEPERS
Parmenter & Bulloch Co., Ltd., Gananoque, Ont.
ICE-MAKING MACHINERY
The Linde Canadian Refrigeration Co., Ltd., Montreal, Que.
INCUBATORS AND BROODERS
Lee Mfg. Co., Ltd., Pembroke, Ont.
INGOT METALS
*Brown's Copper & Brass Rolling Mills, Ltd., New Toronto, Ont.
INSERTED TOOTH SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
INSULATING COMPOUNDS
The Imperial Varnish & Color Co., Ltd., Toronto.
INSULATORS
*Crouse-Hinds Co., Ltd., Toronto.
INTERLOCKING RUBBER TILING
*Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd., Toronto, Ont.
INVERTS
Standard Clay Products, Ltd., St. Johns, Que.
IRON
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
IRON, refined bar
Starr Mfg. Co., Ltd., Dartmouth, N.S.
IRON AND STEEL BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
IRON STAIRWAYS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
IRONWORK, architectural
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
IRONWORK, ornamental
*Canada Wire & Iron Goods Co., Hamilton, Ont.
IRON, LEAD AND PUTTY
A. R. Whittall, Montreal, Que.
IRON PUMPS
*Medicine Hat Pump and Brass Mfg. Co., Medicine Hat, Alta.
JACKS
*Globe Engineering Co., Ltd., Hamilton, Ont.
JAM, canned goods, etc.
E. D. Smith & Son, Ltd.
JAPANS, enamels, etc.
A. Muirhead Co., Ltd., Toronto.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
JIGS AND TOOLS
*Brown Engineering Corporation, Toronto, Ont.
JOINTERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
JELLY POWDER
S. H. Ewing & Sons, Montreal.
JEWELRY, enamelled souvenir
Caron Bros., Montreal, Que.
JEWELRY, gold-filled
Caron Bros., Montreal, Que.
JOIST HANGERS
*Richards - Wilcox Canadian Co., Ltd., London, Ont.
JUNCTION BOXES, cable
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
KELSEY WARM AIR GENERATOR
The Jas. Smart Mfg. Co., Limited, Brockville, Ont.
KILNS
*Sheldons, Ltd., Galt, Ont.
KINDLING
Standard Fuel Co., Toronto, Ont.
KNIFE GRINDERS
*Canada Machinery Corporation Ltd., Galt, Ont.
*W. H. Banfield & Sons, Toronto.
KNITTED GOODS
*Penman's, Ltd., Paris, Ont.
KNIVES
*Galt Knife Co., Ltd.
*The Peter Hay Knife Co., Ltd., Galt, Ont.
Simonds Canada Saw Co., Ltd., Montreal, Que.
KNIVES, pulp and paper
Henry Disston & Sons, Toronto.
*The Peter Hay Knife Co., Ltd., Galt, Ont.
KODAKS AND PHOTOGRAPHIC SUPPLIES
Canadian Kodak Co., Ltd., Toronto.
LABELS
Lawson & Jones, Ltd., London, Ont.
LABELS, lithographed
Harris Lithographing Co., Ltd., Toronto, Ont.
LABORATORY SUPPLIES
Canadian Laboratory Supplies, Ltd., Toronto.
LACE LEATHER
F. C. McCordick, St. Catharines, Ont.
*Sadler & Haworth, Montreal, Que.
*The D. K. McLaren Belting Co., Ltd., Montreal, Que.
*The J. C. McLaren Belting Co., Ltd., Montreal, Que.
LADDERS
Stratford Mfg. Co., Ltd., Stratford, Ont.
LADDERS, step
*Otterville Mfg. Co., Ltd., Otterville, Ont.
LADLES, foundry
*Northern Crane Works, Ltd., Walkerville, Ont.
LAMP GLOBES
*Crouse-Hinds Co., Ltd., Toronto.
LARD
F. W. Fearman Co., Ltd., Hamilton, Ont.
LATH
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
LATHE CHUCKS
Ker & Goodwin, Brantford, Ont.
LATHE-DOGS
Canadian Billings & Spencer, Ltd., Welland, Ont.
LATHES
*Canada Machinery Corporation, Ltd., Galt, Ont.
LAUNCHES
Peterboro Canoe Co., Ltd., Peterboro, Ont.
LAWN MOWERS
Taylor-Forbes Co., Ltd., Guelph, Ont.
LAWN SWINGS
Stratford Mfg. Co., Ltd., Stratford, Ont.
LAVATORIES, enameled
Amherst Foundry Co., Ltd., Amherst, N.S.
LAUNDRY SINKS
Amherst Foundry Co., Ltd., Amherst, N.S.
LEAD
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
LEAD GRINDERS
Benjamin Moore & Co., Ltd., Toronto, Ont.
LEAD PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
*The Canada Metal Co., Toronto.
LEAD SHEET
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
LEATHER
The Robson Leather Co., Ltd., Oshawa, Ont.
LEATHER, bookbinders'
Clarke & Clarke, Ltd., Toronto.
LEATHER DASHES & FENDERS
*McKinnon Industries, Ltd., St. Catharines, Ont.
LEATHER, fancy
Clarke & Clarke, Ltd., Toronto.
LEATHER GOODS
Lamontagne, Ltd., Montreal, Que.
LEATHER, hemlock, union and oak sole
The Breithaupt Leather Co., Ltd., Kitchener, Ont.
LEATHER, patent colt and side leather
*A. R. Clarke & Co., Ltd., Toronto.
LEATHER, sheep skin, etc.
Clarke & Clarke, Ltd., Toronto.
LEATHER, upholstering
Clarke & Clarke, Ltd., Toronto.
LEATHER, upper
A. Davis & Son., Ltd., Kingston, Ont.
King Brothers Co., Ltd., Whitby, Ont.
LIGHTS, marine, side and port
*Crouse-Hinds Co., Ltd., Toronto.
LINK BELT, Ewart, and sawmill riveted
*Canadian Link-Belt Co., Toronto.
LINK BELTING
*The Dodge Mfg. Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
LINOLEUM
Dominion Oil Cloth Co., Ltd., Montreal, Que.
LITHOGRAPHED BUSINESS STATIONERY
Business Systems, Ltd., Toronto.
LITHOGRAPHERS
American Bank Note Co., Ottawa, Ont.
Harris Lithographing Co., Ltd., Toronto, Ont.
The Mortimer Co., Ltd., Ottawa, Ont.
LOCKERS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*Geo. B. Meadows, Wire, Iron and Brass Works Co., Toronto, Ont.
LOCOMOTIVE BLOCKS
Standard Clay Products, Ltd., St. Johns, Que.
LOCOMOTIVES, industrial
*Montreal Locomotive Works, Ltd., Montreal, Que.
LOCOMOTIVE & MARINE BRASS WORKS
The James Morrison Brass Mfg. Co., Ltd., Toronto.
LOGGING CHAIN HOOKS
*McKinnon Industries, Ltd., St. Catharines, Ont.
LOOSE LEAF BINDERS AND FORMS
Business Systems, Ltd., Toronto.
LOOSE LEAF SYSTEMS
Copeland - Chatterson Co., Ltd., Brampton, Ont.
Lowe-Martin Co., Ottawa, Ont.
LOOSE LEAF SUPPLIES
The Esdale Press, Ltd., Edmonton, Alta.
LUBRICATORS, steam sight feed
Penberthy Injector Co., Ltd., Windsor, Ont.
LUGS, for silos and water tanks
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
LUMBER
*Brown Corporation, La Tuque, Que.
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
G. & J. Esplen, Montreal, Que.
LUMBER, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

*For Display Advertisement see Index, Pages 295-296

LUMBER, spruce and pine, cedar railway ties and shingles
Bathurst Lumber Co., Ltd., Bathurst, N.B.
LUMBERING BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
LUMBER, red pine and spruce
Gillies Bros., Ltd., Braeside, Ont.
LUMBER, spruce, fir, larch and cedar
Fernie Lumber Co., Ltd., Fernie, B.C.
LUMBER, White pine
Gillies Bros., Ltd., Braeside, Ont.
MACHINE KNIVES
*Galt Knife Co., Ltd.
*E. C. Atkins & Co., Inc., Hamilton, Ont.
Henry Disston & Sons, Toronto.
MACHINE TOOLS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINE WORK, special and repairs
*Canadian Rumely Co., Ltd., Toronto, Ont.
*The John Whitfield Co., Toronto.
MACHINERY AND UTENSILS FOR BAKERS
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY AND UTENSILS FOR CANDY
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY AND UTENSILS FOR ICE CREAM
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY, conveying
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, flour mill
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, grinding
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
J. & R. Weir, Montreal, Que.
*M. Beatty & Sons, Ltd., Welland.
*Northern Crane Works, Ltd., Walkerville, Ont.
MACHINERY, ice cream
J. J. McLaughlin, Ltd., Toronto.
MACHINERY, iron working
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, pulp mill
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
MACHINERY, punching and shearing
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, railroad and car-shop
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, roadmaking
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
Sawyer-Massey Co., Ltd., Hamilton, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
MACHINERY, sawmill
The E. Long Mfg. Co., Ltd., Orillia, Ont.
P. Payette & Co., Pentanguishene, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
*Yates, P. B., Machine Co., Ltd., Hamilton, Ont.
MACHINERY, sheet metal working
Brown, Boggs Co., Ltd., Hamilton, Ont.
*Canada Machinery Corporation, Ltd., Galt, Ont.
MACHINERY, special
Bawdon Machine Co., Ltd., Toronto.
*The John Whitfield Co., Toronto, Ont.
MACHINERY, transmission
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, woodworking
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Yates, P. B., Machine Co., Ltd., Hamilton, Ont.
Preston Woodworking Machinery Co., Ltd., Preston, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
MACHINE WORK, special and repairs
*Canadian Rumely Co., Ltd., Toronto, Ont.
*John Whitfield Co., Toronto, Ont.
MACHINE WRENCHES
*Canadian Billings & Spencer, Ltd., Welland, Ont.
MACHINES, painting
Spramotor Co., London, Ont.
MAGNESITE
Canadian Carbonate Co., Montreal, Que.
MALT
*Hiram Walker & Sons, Ltd., Walkerville, Ont.
MALLEABLE, for carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
MALLEABLE IRON CASTINGS
*McKinnon Industries, Ltd., St. Catharines, Ont.
Galt Malleable Iron Co., Ltd., Galt, Ont.
MAPLE PRODUCTS
*Maples, Ltd., Toronto, Ont.
MARTINGALE RINGS AND SLIDE LOOPS
The Arlington Co. of Canada, Ltd., Toronto, Ont.
MATCHERS
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
MATCHES
*The E. B. Eddy Co., Ltd., Hull, Que.
MECHANICAL STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto.
MEDICINES, patented and pharmaceutical
Dr. Ed. Morin & Cie., Ltd., Quebec.
METAL, babbitt
*Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
Alonzo W. Spooner, Ltd., Port Hope, Ont.
METAL CEILINGS
*The Pedlar People, Ltd., Oshawa, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
METAL LATH
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.
METAL PACKING
*Garlock Packing Co., Hamilton, Ont.
METAL, spinning and stamping
The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
METAL SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
METAL SHINGLES
*The Pedlar People, Ltd., Oshawa, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
METAL STAMPINGS
Canadian Cartridge Co., Ltd., Hamilton, Ont.
METERS, water
Canadian Cartridge Co., Ltd., Hamilton, Ont.
MILK DEALERS' MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
MILLBOARD, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.
MILLING CUTTERS
Pratt & Whitney Co. of Canada, Dundas, Ont.
MINING MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
MITTS AND GLOVES, Indian, tan, red deerskins
Holt, Renfrew, Ltd., Quebec, Que.
A. R. Clarke & Co., Ltd., Toronto.
MIXERS, chocolate, dough and paint
Fletcher Mfg. Co., Ltd., Toronto.
MOCCASINS AND SLIPPERS, Indian tanned leathers
Holt, Renfrew, Ltd., Quebec, Que.
MORTISERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
MOTOR CARS
*Ford Co. of Canada, Ford, Ont.
MOTORS, electric
*Canadian General Electric Co., Ltd., Toronto, Ont.
MOTORS, electric (alternating current)
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*T. & H. Electric Co., Hamilton, Ont.
MOTORS, electric (direct current)
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*T. & H. Electric Co., Hamilton.
MOTORS, electric (repairing)
Consolidated Electric Co., Ltd., Toronto, Ont.
*T. & H. Electric Co., Hamilton.
MOTORS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
MOULDERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
NAILS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
NAILS, copper
Parmenter & Bullock Co., Ltd., Gananoque, Ont.
NAILS, wire
Parmenter & Bullock Co., Ltd., Gananoque, Ont.
The Graham Nail Works, Toronto.
NAPHTHA
*The Imperial Oil Co., Ltd., Toronto, Ont.
NECK YOKES
*McKinnon Industries, Ltd., St. Catharines, Ont.
NICKEL OXIDE
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
Coniagas Reduction Co., Ltd., St. Catharines, Ont.
NICKEL METAL
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
NIPPLES, for radiators
*McKinnon Industries, Ltd., St. Catharines, Ont.
NUTS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*United Brass & Lead, Ltd., Toronto, Ont.
OAKUM, plumbers, Canadian Navy
Factory Waste & Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto, Ont.
OARLOCKS
*McKinnon Industries, Ltd., St. Catharines, Ont.
OAT CRUSHERS AND FLAKERS
J. Fleury's Sons, Aurora, Ont.
OFFICE DESKS
*Goderich Organ Co., Goderich, Ont.
OFFICE EQUIPMENT
*Office Specialty Co., Newmarket, Ont.
OFFICE FURNITURE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
OILS
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal, Que.
Sherwin-Williams Co. of Canada, Ltd., Montreal, Que.
OIL FILTRATION AND CIRCULATING SYSTEMS
S. F. Bowser & Co., Toronto, Ont.
OIL STORAGE SYSTEMS, self-measuring
S. F. Bowser & Co., Toronto.
OIL COMPANIES
*Canadian Oil Cos., Toronto.
Commercial Oil Co., Ltd., Hamilton, Ont.
*Imperial Oil Co., Toronto.
OILS (petroleum products)
*British American Oil Co., Ltd., Toronto, Ont.
*Dominion Oil Co., Ltd., Hamilton, Ont.
*The Imperial Oil Co., Toronto.
OILS, road
*The Barrett Co., Ltd., Toronto and Montreal.
OIL HOLE COVERS
*Canadian Winkley Co., Ltd., Windsor, Ont.
OIL CUPS, both screw top and hinge lid
*Canadian Winkley Co., Ltd., Windsor, Ont.
OILCLOTHS, floor and table
Dominion Oil Cloth Co., Ltd., Montreal, Que.
ORGANS
*Goderich Organ Co., Goderich, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
ORGANS, pipe
Casavant Freres, St. Hyacinthe, Que.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
ORGANS, parlor
*Goderich Organ Co., Goderich, Ont.
ORNAMENTAL IRON WORK
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*The Geo. B. Meadows, Toronto Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
OVERALLS
Peerless Overall Co., Rock Island, Que.
Walker Pant & Shirt Co., Walkerville and Chatham, Ont.
The Standard Shirt Co., Ltd., Montreal, Que.
OVERCOATINGS
Rosamond Woollen Co., Almonte, Ont.
OVERHEAD RUNWAYS
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
OXY-ACETYLENE WELDING
*L'Air Liquide Society, Montreal, Que.
*The Prest-O-Lite Co., Inc., Toronto.
OXYGEN
*L'Air Liquide Society, Montreal, Que.
PACKING BOXES
Barchard & Co., Ltd., Toronto.
PACKING, engine
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Garlock Packing Co., Hamilton, Ont.
PACKING, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Jenkins Bros., Ltd., Montreal, Que.
PAILS AND TUBS, wooden
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.

*For Display Advertisement see Index, Pages 295-296

PAINTERS' SUPPLIES
A. Muirhead Co., Ltd., Toronto.
PAINTS
R. C. Jamieson & Co., Ltd., Montreal, Que.
PAINTS AND VARNISHES
A. Muirhead Co., Ltd., Toronto.
Benjamin Moore & Co., Ltd., Toronto, Ont.
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
The Staneland Co., Ltd., Victoria, B.C.
A. Ramsay & Sons Co., Montreal, Que.
Standard Paint Co. of Canada, Ltd., Montreal, Que.
PAINTS, barn and bridge
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
PAINTS, preservative
Standard Paint Co. of Canada, Ltd., Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.
PANELBOARDS
*Crouse-Hinds Co., Ltd., Toronto.
PAPER, book
Barber Paper & Coating Mills, Ltd., Georgetown, Ont.
PAPER BOXES
King Paper Box Co., Ltd., Montreal, Que.
*Rudd Paper Box Co., Ltd., Toronto, Ont.
PAPER, coated, book and label
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, coated box board
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, coated cover
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, envelope
*Provincial Paper Mills, Ltd., Georgetown, Ont.
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPER, enamelled blotting
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, label
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, ledger
*Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPERBOARDS
*Canada Boxboard Co., Ltd., Montreal, Que.
PAPER, super-book
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPER, wall
Stauntons, Ltd., Toronto.
PAPER, waxed
Business Systems, Ltd., Toronto.
PAPER, writing
The Toronto Paper Mfg. Co., Cornwall, Ont.
Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
PAPERS, bond
*Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
PAPERS, building
Bathurst Lumber Co., Ltd., Bathurst, N.B.
*The Riordon Pulp & Paper Co., Montreal, Que.
Standard Paint Co. of Canada, Ltd., Montreal, Que.
PARK SEATS
Stratford Mfg. Co., Ltd., Stratford, Ont.
PARLOR SUNDRIES
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
PATENTS
Fetherstonhaugh & Co., Toronto.
Ridout & Maybee, Toronto, Ont.
*Harold C. Shipman & Co., Ottawa, Ont.
PATENT LITIGATION
Ridout & Maybee, Toronto, Ont.
*Harold C. Shipman & Co., Ottawa, Ont.
PATTERN MAKERS' BRASS DOWEL PINS
*Canadian Winkley Co., Ltd., Windsor, Ont.
PAY ROLL AUDITS
*International Business Machines, Ltd., Toronto, Ont.
PERFORATED METALS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
PERFORATED MUSIC ROLLS
The Otto Higel Co., Ltd., Toronto.
PERFUMES AND TOILET PREPARATIONS
Sovereign Perfumes, Ltd., Toronto.
PETROLEUM PRODUCTS
*The Imperial Oil Co., Ltd., Toronto, Ont.
PHOTO MAILERS
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
PIANOS
Dominion Organ & Piano Co., Ltd., Bowmanville, Ont.
*Gourlay, Winter & Leeming, Toronto, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIANO ACTIONS
The Otto Higel Co., Ltd., Toronto.
PIANO KEYS
The Otto Higel Co., Ltd., Toronto.
PIANOS, player
*Gourlay, Winter & Leeming, Toronto, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIANO, player actions
The Otto Higel Co., Ltd., Toronto.
PIANO STOOLS AND BENCHES
*Goderich Organ Co., Goderich, Ont.
PIG IRON
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
M. A. Hanna & Co., Toronto.
PINS, society, emblems and badges
Caron Bros., Montreal, Que.
PIPE, cast iron, for water and gas
National Iron Works, Ltd., Toronto, Ont.
PIPE COUPLINGS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
PIPE COVERINGS
*Eureka Mineral Wood & Asbestos Co., Toronto, Ont.
PIPE ORGANS
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIPES, culvert
Standard Clay Products, Ltd., St. John's, Que.
*The Pedlar People, Ltd., Oshawa, Ont.
PIPE AND NIPPLES, black and galvanized
*Canadian Tube & Iron Co., Ltd., Montreal, Que.
PIPE, sewer
Hamilton & Toronto Sewer Pipe Co., Ltd., Hamilton, Ont.
Standard Clay Products, Ltd., St. John's, Que.
PIPE, soil and fittings
Anthes Foundry, Ltd., Toronto and Winnipeg.
Warden King Ltd., Montreal, Que.
PIPE AND TUBES, wrought
*Page-Hersey Iron Tube & Lead Co., Ltd., Toronto, Ont.
PISTON RODS
*The Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.
PLANERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
PLANING MILLS
G. & J. Esplen, Montreal, Que.
PLASTERING TROWELS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
PLOWS
J. Fleury's Sons, Aurora, Ont.
PLUGS
*Crouse-Hinds Co., Ltd., Toronto.
PLUMBAGO, CRUCIBLES AND STOPPER HEADS
Dominion Crucible Co., Ltd., Montreal, Que.
PLUMBERS' SUPPLIES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
PLUMBING APPLIANCES
Standard Sanitary Mfg. Co., Ltd., Toronto, Ont.
PLUMBING SUPPLIES
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
PNEUMATIC DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
PNEUMATIC MACHINERY
*Canadian Ingersoll-Rand Co., Sherbrooke, P.Q.
POLE LINE MATERIAL (wooden insulator top pins, side blocks, pole steps, cross arms)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.
POLES, flag
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
POLES, telegraph and telephone, cedar
Fernie Lumber Co., Ltd., Fernie, B.C.
PORK PACKERS AND CHEESE EXPORTERS
The Ingersoll Packing Co., Ltd., Ingersoll, Ont.
POSTS, split cedar fence
Fernie Lumber Co., Ltd., Fernie, B.C.
POULTRY SUPPLIES AND MEDICINES
Lee Mfg. Co., Ltd., Pembroke, Ont.
POWDER, blasting
Canadian Explosives, Ltd., Montreal, Que.
POWER PRESSES
Hydraulic Machinery Co., Ltd., Montreal, Que.
*William R. Perrin, Ltd., Toronto.
PRESERVATIVE PAINT
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
PRESSES, baling and filter
*William R. Perrin, Ltd., Toronto.
PRESSES, hydraulic
Hydraulic Machinery Co., Ltd., Montreal, Que.
PRESSES, sheet metal stamping
Brown, Boggs Co., Ltd., Hamilton, Ont.
*Canada Machinery Corporation, Ltd., Galt, Ont.
PRESSES, veneer
*Canada Machinery Corporation, Ltd., Galt, Ont.
PRESSED STEEL AND BRASS GREASE CUPS
*Canadian Winkley Co., Ltd., Windsor, Ont.
Hydraulic Machinery Co., Ltd., Montreal, Que.
*William R. Perrin, Ltd., Toronto.
PRINTERS
Rous & Mann, Ltd., Toronto, Ont.
The Mortimer Co., Ltd., Ottawa, Ont.
PRINTING AND LITHOGRAPHING
Lawson & Jones, Ltd., London, Ont.
PULLEYS
Bond Engineering Co., Toronto.
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
PULLEYS, wood split
*Bernard Industrial Co., Fortierville, P.Q.
PULP, bleached sulphite
The Edward Partington Pulp & Paper Co., St. John, N.B.
Riordan Sales Co., Ltd., Montreal, Que.
PULP, unbleached sulphite
Riordan Sales Co., Ltd., Montreal,
PULP, sulphate and sulphite
Bathurst Lumber Co., Ltd., Bathurst, N.B.
PULP
*Brown Corporation, La Tuque, Que.
PUMPS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Bawden Machine Co., Ltd., Toronto, Ont.
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
Spramotor Co., London, Ont.
PUMPS, boiler feed
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Bawden Machine Co., Ltd., Toronto, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
PUMPS, centrifugal
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
PUMPS, turbine and reciprocating
*Bawden Machine Co., Ltd., Toronto, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
PUNCHES
*John Whitfield Co.,Toronto, Ont.
*Pratt & Whitney Co., Dundas,Ont.
PYROMETERS
*Canadian Hoskins Co., Walkerville, Ont.
RADIATORS
Taylor-Forbes Co., Ltd., Guelph, Ont.
Warden King, Ltd., Montreal, Que.
RAILINGS, brass and iron
*Dennis Wire & Iron Works Co., London, Ont.
RAILS, light
Hammant Steel Car & Engineering Works, Hamilton, Ont.
RAILWAY SIGNAL APPLIANCES
General Railway Signal Co. of Canada, Ltd., Montreal, Que.
RAILWAY SUPPLIES
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
B. J. Coghlin Co., Ltd., Montreal, Que.
RAILWAY TARIFF BINDERS
The Esdale Press, Ltd., Edmonton, Alta.
READY-TO-WEAR GARMENTS, ladies'
H. C. Boulter Co., Ltd., Toronto.
REAMERS
*Pratt & Whitney Co., Dundas, Ont.
*Butterfield & Co., Rock Island, P.Q.
RECEPTACLES
*Crouse-Hinds Co., Ltd., Toronto.
REED AND RATTAN GOODS
Canada Furniture Mfgs., Ltd., Woodstock, Ont.
REFRIGERATORS
Sanderson-Harold Co., Ltd., Paris, Ont.
Lee Mfg. Co., Ltd., Pembroke, Ont.
REFRIGERATING MACHINERY
The Linde Canadian Refrigeration Co., Ltd., Montreal, Que.
REFRIGERATORS, store, homes and institutions
Ham & Nott Co., Ltd., Brantford, Ont.
John Hillock & Co., Ltd., Toronto.
REINFORCEMENT BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Trussed Concrete Steel Co., Ltd., Walkerville, Ont.
REINFORCEMENT FOR CONCRETE
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
REINFORCEMENT FOR CONCRETE ROOFING, metal
*The Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co., Ltd., Walkerville, Ont.
REVOLVING DOORS
*A. B. Ormsby Co., Ltd., Toronto.
RINGS, gold
Caron Bros., Montreal, Que.
RIVETERS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
RIVETS
*Canadian Tube & Iron Co., Ltd., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal.
RIVETS, bifurcated and tubular
Parmenter & Bullock Co., Ltd., Gananoque, Ont.

*For Display Advertisement see Index, Pages 295-296

RIVETS AND BURRS, iron, copper and brass
Parmenter & Bullock Co., Ltd., Gananoque, Ont.
ROCK DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
ROLLING STEEL DOORS
*A. B. Ormsby Co., Ltd., Toronto.
ROLL PRINTING
*Autographic Register Co., Ltd., Montreal, Que.
Business Systems, Ltd., Toronto.
ROOFING, metal
*A. B. Ormsby Co., Ltd., Toronto.
ROOFING, ready to lay
Standard Paint Co. of Canada, Ltd., Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.
ROOF TRUSSES
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal, Que.
ROPE
*Doon Twines, Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.
ROPE, cotton
Hamilton Cotton Co., Hamilton, Ont.
RUBBER FOOTWEAR
Ames Holden, McCready, Ltd., Montreal, Que.
*Gutta Percha & Rubber Ltd., Toronto, Ont.
The Miner Rubber Co., Ltd., Grandy, Que.
RUBBER GOODS
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Limited, Toronto.
RUBBER MOULDS
Bawden Machine Co., Ltd., Toronto, Ont.
RUBBER PACKING
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Garlock Packing Co., Hamilton, Ont.
RULES
The Lufkin Rule Co. of Canada, Ltd., Windsor, Ont.
SADDLERY HARDWARE
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McMinnon Industries, Ltd., St. Catharines, Ont.
SAFES
*Goldie & McCulloch Co., Ltd., Galt, Ont.
J. & J. Taylor, Ltd., Toronto.
SAMPLE CASES
The M. Langmuir Mfg. Co., of Toronto, Ltd., Toronto, Ont.
J. Eveleigh & Co., Ltd., Montreal, Que.
SAND RAMMERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
SANDPAPER
*Delaney & Pettit, Ltd., Toronto.
SASH CORD, cotton
Hamilton Cotton Co., Hamilton, Ont.
SALT
Canadian Salt Co., Ltd., Windsor, Ont.
*Dominion Salt Co., Ltd., Sarnia, Ont.
SANITARY PAPER TOWELS
*E. B. Eddy Co., Ltd., Hull, Que.
SAW SHARPENING MACHINERY
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
SAWS
*E. C. Atkins & Co., Ltd., Hamilton, Ont.
Henry Disston & Sons, Ltd., Toronto, Ont.
Shurly & Deitrich, Galt, Ont.
SAWS, cross-cut and band
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.
SAWS, circular mill
Shurly & Deitrich, Galt, Ont.
SAWS, hack
*Victor Saw Works, Ltd., Hamilton, Ont.
SAWS, of all kinds
Simonds Canada Saw Co., Ltd., Montreal, Que.
SAWS, rip
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.
SAWMILLS
G. & J. Esplen, Montreal, Que.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
SAW MILL MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
SAWS, specialties
*Victor Saw Works, Ltd., Hamilton, Ont.
SCALES
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton, Ont.
SCALES, counter
The Gurney Scale Co., Hamilton, Ont.
SCALES, railway track, etc.
The Gurney Scale Co., Hamilton, Ont.
SCREENS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
SCREEN DOORS AND WINDOWS
Sanderson-Harold Co., Ltd., Paris, Ont.
Ham & Nott Co., Ltd., Brantford, Ont.
SCREWS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal, Que.
SCREW PLATES
*Butterfield & Co., Rock Island, P.Q.
SECURITIES, engraved
American Bank Note Co., Ottawa, Ont.
SERGES
Rosamond Woollen Co., Almonte, Ont.
SHAFTING
Canada Forge Co., Ltd., Welland, Ont.
Bond Engineering Co., Toronto.
*Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.
*Dodge Mfg. Co., Ltd., Toronto.
SHANTY BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
SHAPERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
SHEAR BLADES, iron
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Ltd., Galt, Ont.
SHEATHING
*The Barrett Co., Ltd., Toronto and Montreal.
SHEATHING, asbestos corrugated
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.
SHEET METAL STAMPINGS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.
*W. H. Banfield & Sons, Ltd., Toronto, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
SHEETS, Etc.
*Tallhan Brass & Metal Co., Hamilton, Ont.
SHEETS, galvanized
*Dominion Sheet Metal Co., Ltd., Hamilton, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.
SHINGLES
Bathurst Lumber Co., Ltd., Bathurst, N.B.
SHINGLE SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
SHIP BUILDERS
J. & R. Weir, Montreal, Que.
SHIRTS
John W. Peck & Co., Ltd., Montreal, Que.
SHIRTS, workmen's
*A. R. Clarke & Co., Ltd., Toronto.
SHOE PEGWOOD
O. Chalifour, Quebec, Que.
SHOE LININGS
Galt Knitting Co., Ltd., Galt, Ont.
SHOES, running and athletic
Ames - Holden - McCready, Ltd., Montreal, Que.
SHOOKS
Barchard & Co., Ltd., Montreal.
SIGNAL CELLS
Canadian National Carbon Co., Ltd., Toronto.
SILENT CHAIN DRIVES
*Canadian Link-Belt Co., Toronto.
SILVER BULLION
Coniagas Reduction Co., Ltd., St. Catharines, Ont.
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
SILVERSMITH
Canadian Wm. A. Rogers, Ltd., Toronto, Ont.
Standard Silver Co., Toronto, Ont.
SILVERWARE, sterling
Roden Bros., Ltd., Toronto, Ont.
SINGLETREES
*McKinnon Industries, Ltd., St. Catharines, Ont.
SINKS, enamelled
Amherst Foundry Co., Ltd., Amherst, N.S.
SKATES, figure
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, genuine Acme
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, hockey
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, ice
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKIFFS
Peterboro Canoe Co., Ltd., Peterboro, Ont.
SKYLIGHTS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People, Ltd., Oshawa, Ont.
SLEIGHS
Tudhope-Anderson Co., Ltd., Orillia, Ont.
SLIPPERS
Ames - Holden - McCready, Ltd., Montreal, Que.
SLOTTERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
SMALL METAL STAMPINGS, in quantities
*Canadian Winkley Co., Ltd., Windsor, Ont.
SMOKE CONSUMERS
*The Jones Underfeed Stoker Co., Ltd., Toronto, Ont.
SMOKE-STACKS
*Steel Trough & Machine Co., Ltd., Tweed, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
SNAPS, for harness
*McKinnon Industries, Ltd., St. Catharines, Ont.
SOAPS
J. Barsalou & Co., Ltd., Montreal.
SOAP (soft, oil)
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
Sherwin-Williams Co. of Canada, Ltd., Montreal, Que.
SOCKETS
*Crouse-Hinds Co., Ltd., Toronto.
SODA WATER FOUNTAINS
J. J. McLaughlin, Ltd., Toronto.
SODA WATER FOUNTAINS AND ACCESSORIES
Fletcher Mfg. Co., Ltd., Toronto.
SOIL PIPE
Anthes Foundry, Ltd., Toronto.
SOLDER
Alonzo W. Spooner, Ltd., Port Hope, Ont.
*Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
SOLDER, silver
Geo. H. Lees & Co., Hamilton, Ont.
SOLDER, wire and bar
*American Can Co., Montreal, and Hamilton.
SOLDERING IRONS AND COPPERS
Brown, Boggs Co., Ltd., Hamilton,
SNOWSHOES
Holt, Renfrew, Ltd., Quebec, Que.
SPECIAL MACHINERY
*Globe Engineering Co., Ltd., Hamilton, Ont.
SPELTER
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
SPIKES, railway and marine
Starr Mfg. Co., Ltd., Dartmouth, N.S.
SPINNING AND STAMPING
Tallman Brass & Metal, Ltd., Hamilton, Ont.
SPIRAL CONVEYORS
*Canadian Mathews Gravity Carrier Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
SPLIT PEAS
H. Murton, Ltd., Guelph, Ont.
SPIRITS
*Hiram Walker & Sons, Ltd., Walkerville, Ont.
SPOOLS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
SPORTING MEDALS AND TROPHIES
Roden Bros., Ltd., Toronto, Ont.
SPRAYERS
Spramotor Co., London, Ont.
SPRING COTTERS
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
SPRINGS
*Canadian Steel Foundries, Ltd., Montreal, Que.
B. J. Coghlin Co., Ltd., Montreal.
Guelph Spring & Axle Co., Ltd., Guelph, Ont.
SPRINGS, carriage and automobile
Guelph Spring & Axle Co., Ltd.,
SPRING SHACKLE BOLTS
*Canadian Winkley Co., Ltd., Windsor, Ont.
John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy, Mansell, Ltd., Toronto.
*Vogel Co. of Canada, Ltd., Montreal, Que.
SPROCKET WHEELS
*Canadian Link Belt Co., Ltd., Toronto, Ont.
STAINS
R. C. Jamieson & Co., Ltd., Montreal, Que.
STAINS, creosote shingle
A. Muirhead Co., Ltd., Toronto.
STAMPINGS
*Dominion Forge & Stamping Co., Ltd., Walkerville, Ont.
*Wentworth Mfg. Co., Hamilton.
STAMPINGS, heavy steel
Canadian Cartridge Co., Ltd., Hamilton, Ont.
STAMPS, steel, brass and rubber
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
STAMP MILLS
*Jenckes Machine Co., Sherbrooke, P.Q.
STATIONERY, office
Harris Lithographing Co., Toronto.
STEAM PIPE AND BOILER COVERINGS, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.
STEAM SHOVELS
*M. Beatty & Sons, Ltd., Welland, Ont.
STEAM SPECIALTIES
*C. A. Dunham Co., Ltd., Toronto.
*Darling Bros., Ltd., Montreal, Que.
*Sheldons, Ltd., Galt, Ont.
STEAM TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Mfg. Co., Ltd., Woodstock, Ont.
STEEL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
STEEL BILLETS AND BLOOMS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
STEEL BUILDINGS
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal, Que.

*For Display Advertisement see Index Pages 295-296

*McGregor & McIntyre, Ltd., Toronto, Ont.
*Mackinnon, Holmes & Co., Ltd., Sherbrooke, P.Q.
*The Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL CABINETS
J. & J. Taylor, Ltd., Toronto, Ont.

STEEL CASTINGS
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton, Ont.

STEEL DOORS, rolling
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL FILING EQUIPMENT
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

STEEL PLATE WORK
*Mackinnon, Holmes & Co., Ltd., Sherbrooke, P.Q.
*Toronto Iron Works, Ltd., Toronto.

STEEL RODS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.

STEEL SASH
*Dennis Wire & Iron Works Co., London, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL SHELVING
*Dennis Wire & Iron Works Co., London, Ont.

STEEL WIRE RODS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.

STEEL WAGON HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.

STELLITE
*Deloro Smelting & Refining Co., Ltd., Deloro and Toronto.

STENCILS, brass
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

STEPS, for buggies and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.

STEREOTYPING
Central Press Agency, Toronto.

STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto, Ont.

STOOLS AND BENCHES, piano and organ
*Otterville Mfg. Co., Ltd., Otterville, Ont.

STOOLS, steel factory
*Steel Trough & Machine Co., Ltd., Tweed, Ont.

STONE
The Hagersville Contracting Co., Hagersville, Ont.

STONEWARE
*Jas. W. Foley & Co., St. John, N.B.

STORAGE BATTERIES
*Canadian General Electric Co., Ltd., Toronto, Ont.

STORE FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.

STOVES
Smith Foundry Co., Ltd., Fredericton, N.B.
Tudhope - Anderson Co., Ltd., Orillia, Ont.

STOVE LININGS
Standard Clay Products, Ltd., St. John's Que.

STOVES AND RANGES
Lee Mfg. Co., Ltd., Pembroke, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
McClary Mfg. Co., London, Ont.

STRAWS, paper drinking
Fletcher Mfg. Co., Ltd., Toronto.

STRAWBOARD
*Canada Boxboard Co., Ltd., Montreal, Que.

STREET LIGHTING FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.

STRETCHERS, lace curtain
*Otterville Mfg. Co., Ltd., Otterville, Ont.

STRUCTURAL STEEL
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Dominion Bridge Co., Montreal.
*Hamilton Bridge Works Co., Ltd., Hamilton, Ont.
*Manitoba Bridge & Iron Works, Ltd., Winnipeg, Man.
*McGregor & McIntyre, Ltd., Toronto, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*The Canadian Bridge Co., Ltd., Walkerville, Ont.

STUMP EXTRACTORS
*The John Whitfield Co., Toronto.

SUIT CASES
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto, Ont.

SUPPLY DEALERS
*The Foundation Co., Ltd., Montreal, Que.

SURFACERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

SWITCHBOARDS
*Canadian General Electric Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.

SWITCHES
*Crouse-Hinds Co., Ltd., Toronto.

SWITCHES, railway
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.

SWITCHES AND FROGS
*Canadian Steel Foundries, Ltd., Montreal, Que.

SWITCH STANDS
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.

TABLE COVERS, chenille
Hamilton Cotton Co., Hamilton, Ont.

TANKS
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*Toronto Iron Works, Ltd., Toronto.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

TANKS, steel storage
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Steel Trough & Machine Co., Ltd., Tweed, Ont.

TANNERS' SUPPLIES
McClary Mfg. Co., London, Ont.

TAPS
*Butterfield & Co., Rock Island, P.Q.
*Pratt & Whitney Co., Dundas, Ont.

TAPES, measuring
The Lufkin Rule Co. of Canada, Ltd., Windsor, Ont.

TELEPHONE ACCESSORIES
*Canadian Independent Telephone Co., Toronto, Ont.
*Northern Electric Co., Ltd., Montreal, Que.

TENTS
Turner, J. J., & Sons, Peterboro, Ont.
*Scythes & Co., Ltd., Toronto, Ont.

TERMINALS, electric cable
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

TERRA ALBA
*Albert Mfg. Co., Hillsborough, N.B.

TERRA COTTA, architectural
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.

TEXTILE SUPPLIES (shuttles, bobbins, spools and picker sticks)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.

THUMB SCREWS
*Canadian Billings & Spencer, Ltd., Welland Ont.

TIE TAMPERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

TIE PLATES, for railways
*McKinnon Industries, Ltd., St. Catharines, Ont.

TILING, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Ltd., Toronto, Ont.

TIME RECORDERS
*International Business Machines Co., Ltd., Toronto, Ont.

TINWARE, lithographed
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

TIRES, bicycle, auto, carriage, truck, motorcycle
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Ltd., Toronto, Ont.

TOOLS
*The John Whitfield Co., Toronto,

TOOLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

TOOLS, track
B. J. Coghlin Co., Ltd., Hamilton.

TOOLS, sheet metal workers'
Brown, Boggs Co., Ltd., Hamilton.

TRACK, steel, portable
Hammant Steel Car & Engineering Works, Hamilton, Ont.

TRADE MARKS AND DESIGNS
Ridout & Maybee, Toronto, Ont.

TRANSFORMERS
*Canadian General Electric Co., Ltd., Toronto, Ont.
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.

TRANSLATIONS INTO FRENCH
Raoul Renault, Quebec City.

TRANSMISSION MACHINERY
Bond Engineering Co., Toronto.
*Canadian Link Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Mfg. Co., Woodstock, Ont.

TROLLEYS
*Richard-Wilcox Canadian Co., Ltd., London, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.

TRUCKS
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton.
*Northern Crane Works, Ltd., Walkerville, Ont.

TRUCKS, brick, tile and lumber
*Waterous Engine Works Co., Ltd., Brantford, Ont.

TRUCKS, motor
*National Steel Car Co., Ltd., Hamilton, Ont.

TRUCKS, warehouse and factory
The W. S. Mahaffy Co., Toronto.

TRUCKS, steel, forge and foundry
Hammant Steel Car & Engineering Works, Hamilton, Ont.

TRUCKS FOR OFFICE AND VAULT USE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

TRUNKS
Lamontagne, Ltd., Montreal, Que.
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto.

TUBING, brass and copper
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
Canadian Seamless Wire Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Co., Ltd., Montreal, Que.

TUBING, gold and silver
Canadian Seamless Wire Co., Toronto, Ont.

TUBES, ice cream
Fletcher Mfg. Co., Ltd., Toronto.

TUMBLERS, foundry
*Northern Crane Works, Ltd., Walkerville, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

TURBINES, steam
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines.

TURBINE PUMPS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

TURPENTINE
*Brown Corporation, La Tuque, Que.

TWEEDS
Rosamond Woollen Co., Almonte, Ont.

TWINES
*Doon Twines, Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.

TWINES, binder
Brantford Cordage Co., Ltd., Brantford, Ont.

TWINES, cotton
Hamilton Cotton Co., Hamilton, Ont.

TWIST DRILLS
*John Morrow Screw & Nut Co., Ltd., Ingersoll.
*Pratt & Whitney Co. of Canada, Dundas, Ont.
*The Wilt Twist Drill Co., Ltd., Walkerville, Ont.

UNDERWEAR
Galt Knitting Co., Ltd., Galt, Ont.

UNDERWEAR, imperial
Kingston Hosiery Co., Ltd., Kingston, Ont.

UNIONS
*Dart Union Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.

UPHOLSTERED FURNITURE, leather and tapestries
Imperial Rattan Co., Ltd.

VALVES
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Jenkins Bros., Ltd., Montreal, Que.
*Kerr Engine Co., Ltd., Walkerville, Ont.
T. McAvity & Sons, Ltd., St. John, N.B.
*Penberthy Injector Co., Ltd., Windsor, Ont.

VALVES, for steam and water
*Jenkins Bros., Ltd., Montreal.
*Mueller Mfg. Co., Ltd., Sarnia, Ont.
*Penberthy Injector Co., Ltd., Windsor, Ont.
James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.

VALVES, pressure reducing
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

VALVES, regrinding globe, angle, cross checks, swing checks
*Mueller Mfg. Co., Ltd., Sarnia,
Penberthy Injector Co., Ltd., Windsor, Ont.

VALVES, regulating
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

VALVES, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.

VARNISHES
*Ault & Wiborg Co. of Canada, Ltd., Toronto, Ont.
Berry Bros., Walkerville, Ont.
R. C. Jamieson & Co., Ltd., Montreal, Que.

VAULT FITTINGS, steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

VAULTS AND VAULT DOORS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
J. & J. Taylor, Ltd., Toronto, Ont.

VENTILATING APPLIANCES
*Sheldons, Ltd., Galt, Ont.

VENTILATING SYSTEMS
Gurney Foundry Co., Ltd., Toronto, Ont.

VENTILATORS
*A. B. Ormsby, Ltd., Toronto, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.

VOLTMETERS AND AMMETERS
*Crouse-Hinds Co., Ltd., Toronto.

WAGONS
Tudhope Anderson Co., Ltd., Orillia, Ont.

WAGON HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.

WALL COPING
Standard Clay Products, Ltd., St. John's, Que.

WASHERS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*United Brass & Lead, Ltd., Toronto, Ont.

WASHERS, plate or wrought
London Rolling Mill Co., Ltd., London, Ont.

WASTES, wool and cotton
Factory Waste & Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto, Ont.

WATERPROOF, cement coating
Benjamin Moore & Co., Ltd., Toronto, Ont.
*The Barrett Co., Ltd., Toronto and Montreal.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.

*For Display Advertisement see Index, Pages 295-296

WATER WHEELS
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
WEBBING, elastic
Hamilton Cotton Co., Hamilton, Ont.
WEBBING, non-elastic
Hamilton Cotton Co., Hamilton, Ont.
WELDING APPARATUS AND MATERIALS
*The Presto-O-Lite Co., Toronto.
WELL-DIGGING TOOLS AND MACHINERY
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
WHEEL FLANGES
*McKinnon Industries, Ltd., St. Catharines, Ont.
WHEELS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
WHEELS, corundum
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
WHEELS, emery
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
WELL DRILLING TOOLS AND MACHINERY
Oil Well Supply Co., Ltd., Petrolia, Ont.
WHIPS AND LASHES
Lay Whip Co., Rock Island, Que.
WHIPSOCKETS
*McKinnon Industries, Ltd., St. Catharines, Ont.
WHITE ARSENIC
Coniagas Reduction Co., Ltd., St. Catharines, Ont.

WHITE LEAD
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal.
WINDMILLS
*Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*Medicine Hat Pump & Brass Mfg. Co., Medicine Hat, Alta.
WINDOW SHADES
Daly & Morin, Montreal, Que.
WIRE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
The Graham Nail Works, Toronto.
WIRE BALE TIES
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.
WIRE CLOTH
*Canada Wire & Iron Goods Co., Hamilton, Ont.
C. H. Johnston & Sons, Ltd., Montreal, Que.
WIRE, feeder and trolley
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE GUARDS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
C. H. Johnston & Sons, Ltd., Montreal, Que.

WIRE, insulated electric
*Northern Electric Co., Ltd., Montreal, Que.
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE, weatherproof
*Northern Electric Co., Ltd., Montreal, Que.
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE ROPE
*Dominion Wire Rope Co., Ltd., Montreal, Que.
*The B. Greening Wire Co., Ltd., Hamilton, Ont.
WIRE WORK
C. H. Johnson & Sons, Ltd., Montreal, Que.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*The Geo. B. Meadows, Toronto Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
WIRING DEVICES
*Crouse-Hinds Co., Ltd., Toronto.
WOOD
Standard Fuel Co., Toronto, Ont.
WOOD BORERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
WOOD PRINTERS
Barchard & Co., Ltd., Toronto.

WOOD PULP, mechanical
La Cie de Pulpe de Chicoutimi, Chicoutimi, Que.
WOODBOARD
*Canada Boxboard Co., Ltd., Montreal, Que.
WOOD SHOP, general work
*Canadian Rumely Co., Ltd., Toronto, Ont.
WOOD SPLIT PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
WOOD STAVE PIPE
T. A. Morrison & Co., Montreal.
WOOL
*H. V. Andrews, Toronto, Ont.
WOOD TURNING
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
WORSTED COATINGS AND SUITINGS
Rosamond Woollen Co., Almonte, Ont.
WRAPPERS, book, bottle, etc.
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
WRENCHES
*McKinnon Industries, Ltd., St. Catharines, Ont.
WROUGHT IRON PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
WROUGHT PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
YARNS, cotton
Hamilton Cotton Co., Hamilton, Ont.
ZINC, electrical
*The Canada Metal Co., Toronto.

*** For Display Advertisement see Index, Pages 295-296**

HON. FINLAY G. MACDIARMID,
Minister of Public Works

W. A. RIDDELL, M.A., Ph.D.,
Superintendent Trades and Labour

TRADES AND LABOUR BRANCH
DEPARTMENT OF PUBLIC WORKS

ONTARIO GOVERNMENT PUBLIC EMPLOYMENT BUREAUS are in operation in the towns and cities listed below:

BELLEVILLE	LINDSAY	PORT ARTHUR
BRANTFORD	LONDON	SARNIA
BROCKVILLE	NIAGARA FALLS	SAULT STE. MARIE
CHATHAM	NORTH BAY	ST. CATHARINES
COBALT	ORILLIA	ST. THOMAS
FORT WILLIAM	OSHAWA	STRATFORD
GALT	OTTAWA	SUDBURY
GUELPH	OWEN SOUND	TIMMINS
HAMILTON	PEMBROKE	TORONTO (3)
KINGSTON	PERTH	WELLAND
KITCHENER	PETERBOROUGH	WINDSOR

Ontario employers of labour have asked the bureaus for workers in 349 different trades and occupations, and in the majority of cases the required help has been supplied.

Are you getting your help through the medium of the employment service, which you as a taxpayer are helping to support?

It will be to our mutual advantage for you to get in touch with the nearest bureau and let us help you to solve your employment problems. The value of these bureaus will increase in proportion to the extent to which they are used by employers.

THESE BUREAUS ARE THE ONTARIO UNITS OF THE RECENTLY-ORGANIZED EMPLOYMENT SERVICE OF CANADA

SHURLY & DERRETT
LIMITED

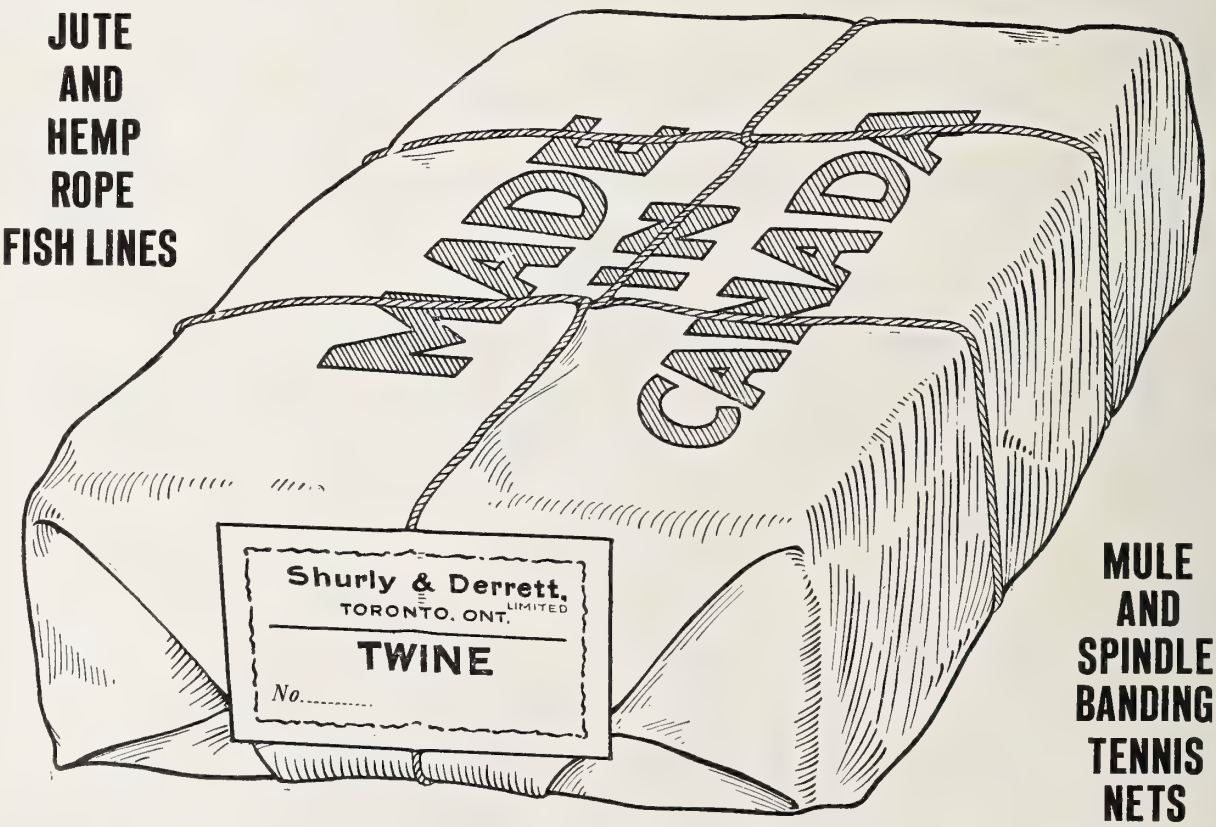
1080 Bloor Street West

TORONTO

Manufacturers of

TWINES

COTTON
JUTE
AND
HEMP
ROPE
FISH LINES



MULE
AND
SPINDLE
BANDING
TENNIS
NETS
ETC., ETC.

Look for this Package

We will sell you any quantity

INDEX TO DISPLAY ADVERTISEMENTS

Adams Cellboard Co. 296
Alaska Bedding Co., Ltd. 139
Algoma Steel Corporation, Ltd. 63
Allith Mfg. Co., Ltd. 257
Andrews, H. V. 263
Armstrong, Whitworth of Canada, Ltd... 258
Arnett, Thos. Lewis 254
Asbestos Mfg. Co., Ltd. 256
Atkins, E. C., Co. 60
Ault & Wiborg Co., of Canada, Ltd.... 125

Baker, Walter, & Co., Ltd. 127
Banfield, W. H. & Sons, Ltd. 42
Bank of Hamilton 131
Bank of Montreal 128
Barber-Ellis, Ltd. 237
Barrett Co., Ltd., The 144
Bathurst Lumber Co., Ltd. 8
Beatty, M. & Sons, Ltd. 79
Bertram, The John & Sons Co., Ltd..... 5
Bird & Sons 106
Boiler Inspection and Insurance Company of Canada 275
Booth-Coulter Copper & Brass Co., Ltd.. 62
Boeckh Co., Ltd., The..... 247
Benjamin Electric Mfg. Co..... 239
Barrie Tanning Co., Ltd. 255
Bennett & Wright Co., Ltd. 278
Bradstreet's 98
British American Oil Co., Ltd..Inside front cover
B. C. Mills Timber & Trading Co., The.. 249
Bronson Company, The 238
Brown Bros., Ltd. 94
Brown Corporation 282
Brown's Copper & Brass Rolling Mills, Ltd. 67
Brunner Mond, Canada, Ltd. 107
Bond Engineering Works, Ltd. 50
Brown Engineering Corporation 267
Burlington Steel Co., Ltd..... 86
Butterfield & Co., Inc..... 51

Canada Carbide Co., Ltd. 54
Canada Crushed Stone Corporation, Ltd.. 10
Canada Foundries & Forgings, Ltd..... 263
Canada Machinery Corporation, Ltd. 6
Canada Metal Co., Ltd..... 267
Canada Wire & Iron Goods Co..... 92
Canadian Ammonia Co., Ltd. 268
Canadian Appraisal Co. 130
Canadian Bank of Commerce 129
Canadian Blower and Forge Co..... 60
Canadian Bridge Co., Ltd., The 277
Canadian Cereal & Flour Mills Co..... 238
Canadian Chewing Gum Co., Ltd..... 252
Canadian Carbonate Co., Ltd. 264
Canadian Chicago Bridge & Iron Co., Ltd. 275
Canadian Collapsible Tube Co., Ltd. 278
Canadian-Connecticut Cotton Mills, Ltd.. 90
Canadian Consolidated Rubber Co., Ltd. Outside back cover and 111
Canadian Crocker-Wheeler Co., Ltd., The. 3
Canadian Drawn Steel Co., Ltd., The.. 69
Canadian Fairbanks-Morse Co., Ltd., The 25
Canadian Furnace Co., Ltd. 65
Canadian General Electric Co., Ltd..... 59
Canadian Germicide Co. 272
Canadian General Fire Extinguisher Co., Ltd. 75
Canadian Hart Wheels, Ltd. 60
Canadian Industrial Alcohol Co. 269
Canadian Ingersoll-Rand Co., Ltd. 14
Canadian Kodak Co., Ltd. 126
Canadian Land and Stamping Co., Ltd. .. 255
Canadian Link-Belt Co., Ltd. 85
Canadian Mathews Gravity Carrier Co., Ltd. 276
Canadian Meter Co., Ltd., The 262
Canadian National Exhibition 126
Canadian National Railways 283
Canadian Oil Companies, Ltd. 86
Canadian Pacific Railway Co. 281
Canadian Pneumatic Tool Co., Ltd. 24
Canadian Poster Co. 140-141
Canadian Pulp & Paper Association .. 100
Canadian Ramapo Iron Works, Ltd..... 37
Canadian Rumely Co. 246
Canadian Salt Co., Ltd..... 266
Canadian Steel Foundries 76
Canadian Tube & Iron Co., Ltd..... 11
Canadian Westinghouse Co. 142
Canadian Yale & Towne, Ltd..... 33
Caron Bros. 58
Carhartt, Hamilton, Cotton Mills, Ltd... 251
Casavant Freres 112
Champion Spark Plug Co. of Canada, Ltd. 137
Chapman Double Ball-Bearing Co., Ltd... 80
Clarke, A. R. & Co., Ltd..... 97
Clyde Motor 138
Coghlin, B. J. Co., Ltd. 49
Conduits Co., Ltd. .....Inside back cover
Coniagas Reduction Co., Ltd., The..... 127
Consolidated Mining & Smelting Company of Canada, Ltd. 46
Copeland-Chatterson Co., Ltd., The 113
Cosmos Cotton Co. 93

Dart Union Co., Ltd..... 1
Davis & Henderson, Ltd. 126
Dawson, Chas. F., Ltd..... 88
Delany & Pettit, Ltd. 261
De Laval Co., Ltd., The..... 48
Deloro Smelting & Refining Co., Ltd..... 38
Dennis Wire & Iron Works Co., Ltd., The 48
Dodge Mfg. Co., Ltd..... 7
Dominion Abrasive Wheel Co., Ltd., The 77
Dominion Bank 131
Dominion Belting Co., Ltd..... 94
Dominion Bridge Co., Ltd..... 76
Dominion Copper Products Co., Ltd..... 66
Dominion Forge & Stamping Co., Ltd... 122
Dominion Glass Co., Ltd..... 259
Dominion Oil Co. 86
Dominion Oil Cloth Co. 88
Dominion Sheet Metal Co., Ltd., The.... 78
Dominion Steel Foundry Co., Ltd..... 44
Dominion Tar & Chemical Co. 271
Dominion Textile Co., Ltd..... 87
Dominion Wire Rope Co., Ltd., The.... 277
Doon Twines, Ltd. 94
Dryden Pulp & Paper Co., Ltd., The.... 128
Dunham, A. C., Co., Ltd.....Inside front cover
Dunlop Tire & Rubber Goods Co., Ltd. .. 110
Du Pont Fabrikoid Co. 278

Eastern Hat & Cap Co., Ltd. 253
Economy Fuse & Mfg. Co., Ltd..... 116
Eddy, The E. B. Co. 265
Elder Dempster & Co., Ltd..... 280
Export Association of Canada..... 103
Electro Metals, Ltd. 52
Electric Steel & Metals Co. Ltd..... 45
Engineering & Machine Works of Canada, Ltd. 66
Eureka Mineral Wool & Asbestos Co..... 263

Fisher Body Co. of Canada, Ltd..... 127
Fletcher Mfg. Co. 104
Fleury's Sons, J. 257
Foley, James W., & Co..... 68
Ford, J. & Co. 98
Foundation Co., Ltd., The..... 74
Freyseng Cork Co., Ltd..... 120
Frost & Wood Co., Ltd..... 118

Galt Foundry Co., The 61
Galt Knife Co., Ltd. 277
Galt Malleable Iron Co., Ltd..... 68
Gardner, R. & Son, Ltd..... 62
Garlock Packing Co. 15
Gendron Mfg. Co., Ltd..... 114
Gibbons, J. J., Ltd.....Outside front cover
Gillies Bros., Ltd..... 72
Gillette Safety Razor Co., Ltd. 234-235
Gilson Mfg. Co., Ltd..... 60
Goderich Organ Co., Ltd..... 98
Goldie & McCulloch Co., Ltd., The.... 55
Goodhue, J. L. & Co., Ltd. 96
Goodyear Tire & Rubber Co.....108-109
Grace & Co., Ltd..... 1
Grasselli Chemical Co., Ltd., The..... 273
Gray, The John V. Construction Co., Ltd. 263
Greening, B. Wire Co., Ltd..... 50
Griffin Curled Hair Co., Ltd..... 98
Gurd, Chas. & Co., Ltd..... 271
Gutta Percha & Rubber, Ltd.—Inside back cover

Hamilton Bridge Works Co., Ltd..... 74
Hamilton Gear & Machine Co., The 41
Hamilton Motor Works, Ltd..... 263
Hamilton, Wm., Co., Ltd..... 30
Harris Litho Co., Ltd.....Inside back cover
Hay & Co., Ltd..... 119
Hay, Peter, Knife Co., Ltd..... 274
Hersey, Milton Co., Ltd..... 270
Hinde & Dauch Paper Co. of Canada, Ltd. 99
Hoyt Metal Co. 58
Hydraulic Machinery Co. 134

Imperial Bank of Canada..... 129
Imperial Oil Co., Ltd..... 53
Imperial Varnish & Color Co., Ltd., The 121
Inglis, The John, Co., Ltd..... 57
International Harvester Co. of Canada, Ltd. 20
International Business Machines Co., Ltd. 240-241

Jardine, A. B. & Co..... 48
Jefferson Glass Co., Ltd..... 29
Jenkins Bros., Ltd. 136
Joliette Steel Co., Ltd. 262
Jones, J. L., Engraving Co., Ltd..... 38
Jones Underfeed Stoker Co., Ltd..... 16
Jones & Moore Electric Co., Ltd..... 46

Kennedy, Wm., The, & Sons, Ltd..... 27
Kerr Engine Co., Ltd., The..... 66

Laidlaw Bale-Tie Co., Ltd..... 62
Laidlaw, R., Lumber Co., Ltd..... 120
La Monte & Son, Geo. 35-36
Langmuir & Co., M. 250
Lauzon Engineering Co. 54
Leonard, E. & Sons, Ltd..... 15
Leslie, A. C. & Co., Ltd. 43
Lever Bros., Ltd. 124

Macdonald Mfg. Co. 119
Macdonald, W. C., Inc. 72

For Buyers' Guide see page 284

MacKinnon Steel Co., Ltd. 30
MacLean, Hugh C., Ltd. 258
Mahaffy Co., The W. S. 64
Maples Limited 260
Maritime Bridge Co., Ltd. 277
Mason Regulator & Engineering Co., Ltd. 84
Massey-Harris Co., Ltd. 3
McClary Mfg. Co. 261
McDonald-Wilson, Ltd. 116
McGregor & McIntyre, Ltd. 64
McKinnon Industries, Ltd. 56
McLaren, D. K., Ltd. 96
McLaren, The J. C., Belting Co., Ltd. 96
Meadows, The Geo. B., Toronto Wire, Iron & Brass Works Co., Ltd. 13
Meek, Chas. S. & Co., Ltd. 245
Mercur, R. J., & Co., Ltd. 70
Merchants Bank of Canada 129-133
Metallic Roofing Co. of Canada, Ltd., The 9
Miner Rubber Co., Ltd. 112
Monarch Knitting Co., Ltd., The 91
Montreal Cottons, Ltd. 92
Montreal Locomotive Works, Ltd. 64
Morris Crane & Hoist Co., Herbert, Ltd. 12
Morrow, The John, Screw & Nut Co., Ltd. 251
Mueller, H., Mfg. Co., Ltd. 46

National Acme Co. 135
National Steel Car Co., Ltd. ..... :
New Zealand Shipping Co., Ltd. 280
Nichols Chemical Co., Ltd. 271
Nicholson File Co. 40
North American Bent Chair Co., Ltd. 114
Northern Aluminum Co., Ltd. 276
Northern Crane Works, Ltd. 56
Northern Electric Co., Ltd. 127
Norton Co. 28
Nova Scotia Steel & Coal Co., Ltd. 44

Office Specialty Mfg. Co., Ltd., The 248
Oil Well Supply Co., Ltd. 118
Ontario Government Notices 293
Ontario Wind Engine & Pump Co., Ltd. 279
Ormsby, A. B. Co., Ltd. 81
Otterville Mfg. Co., Ltd. 267

Paton Mfg. Co. of Sherbrooke 93
Pedlar People, Ltd., The 31
Penmans, Ltd. 89
Perrin, William R., Ltd. 268
Peters, J. Henry, Co. 90
Plant, W. P. 44
Pratt & Whitney Co. of Canada, Ltd. 4
Prest-O-Lite Co., Inc., The 19
Purdy, Mansell, Ltd. 279

Richards-Wilcox Canadian Co., Ltd. 2
Ridout & Maybee 276
Riordon Sales Co., Ltd. 105
Ritchie & Ramsay 17-18
Roden Bros. 254
Rolland Paper Co., Ltd., The 101
Royal Bank of Canada 132
Ryerson Press, The 72

Sadler & Haworth 95
Sawyer-Massey Co., Ltd. 117
Scarfe & Co. 123
Scotia Woodworkers, Ltd. 257
Scythes & Co., Ltd. 92
Shipman & Co., Harold C. 20, 21, 22, 23, 24
Shurly & Derrett, Ltd. 294
Slater & Barnard, Ltd. 257
Smart-Turner Machine Co., Ltd. 78
Smith, The Howard, Paper Mills, Ltd. 102
Standard Chemical, Iron & Lumber Co., Ltd. 273
Standard Paper Box Co., Ltd. 119
Standard Woollen Mills Co. of Toronto, Ltd. 92

Stanley Steel Co., Ltd. 56
Staunton's, Ltd. 122
Steel Co. of Canada, The 83, 245
Steel Trough & Machine Co., Ltd. 282
Sterne, G. F. & Sons 246
Stevens-Hepner Co., Ltd. 120
Stowell Screw Co., Ltd., The 275

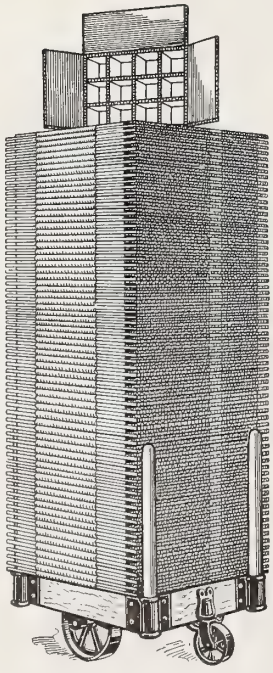
Tallman Brass & Metal Co. 68
Telfer Mfg. Co. 119
Thompson & Norris Co. of Canada, Ltd. Outside back cover
Thorne, Mulholland, Howson & McPherson 132
Toledo Scale Co. 71
Toronto Hydro-Electric System 279
Toronto & Hamilton Electric Co., Ltd. 260
Toronto Iron Works, Ltd., The 32
Trussed Concrete Steel Co. of Canada, Ltd. 34

Union Bank of Canada 129
Union Drawn Steel Co., Ltd. 86
Union Screen Plate Co. of Canada, Ltd. 26
United Shoe Machinery Co. of Canada, Ltd. 47

Vera Chemical Co. of Canada, Ltd. 282
Wabi Iron Works, The 10
Walker, Hiram, Metal Products, Ltd. 26
Waterous Engine Works Co., Ltd., The 39
Welland Vale Mfg. Co., Ltd., The 117
Wells & Gray, Ltd. 82
Western Canada Flour Mills Co., Ltd. 115
Whitfield, The John Co. 24
Whittall, A. R., Can Co., Ltd. 259
Wickett & Craig, Ltd. 98
Wiser, J. P. & Sons, Ltd. 274
Wright, E. T. Co., Ltd. 253
Wrigley, Wm., Jr., Co. 120

Yates, P. B. Machine Co., Ltd. 73

For Buyers' Guide see page 284



OUR SPECIALTY
FOLDING CELLBOARD
FREIGHT BOXES

ADAMS CELLBOARD COMPANY

MANUFACTURERS OF

SHIPPING CONTAINERS AND CORRUGATED PAPER

IMPORTERS OF

GUM SODA AND SEALING TAPES

We desire to have your samples or measurements to quote on when you are considering placing an order.

5 TO 21 DEFRIES STREET
AND DON ESPLANADE
TORONTO

Vol. XX., No. 4 TORONTO, AUGUST, 1919 $2.00 per Year

INDUSTRIAL CANADA

We Sell—Advertising Experience

IN the twenty years we have been established, we have been associated with many successes and some failures. We have learned as much from our failures as we have profited by our successes. It is the cumulative benefit of this experience, in every form of newspaper and direct advertising, that we sell to our clients.

If you think there may be something in our experience that you can profit by; write, and we will discuss your advertising with you, without any obligation on your part to employ us.

We assume that if we can show you something that you think would be profitable to you, you will be disposed to do business.

J. J. GIBBONS, LIMITED

General Advertising Agents

MONTREAL TORONTO WINNIPEG

Cables--Gibjay, Toronto Cables--ABC, 5th Edition

PUBLISHED BY THE CANADIAN MANUFACTURERS ASSOCIATION INCORPORATED.

HEAD OFFICE ..... BRANCH OFFICES .....

STEEL TANKS

THE
TORONTO IRON WORKS
LIMITED

HEAD OFFICE: ROYAL BANK BLDG. TORONTO WORKS: CHERRY STREET

Oil Storage, Gasoline Tanks, Air Receivers, Pneumatic Water Supply Tanks, Smoke Stacks, Boiler Breeching, Riveted Steel Pipe, Bins and Hoppers. Heavy and light steel plate construction erected anywhere.

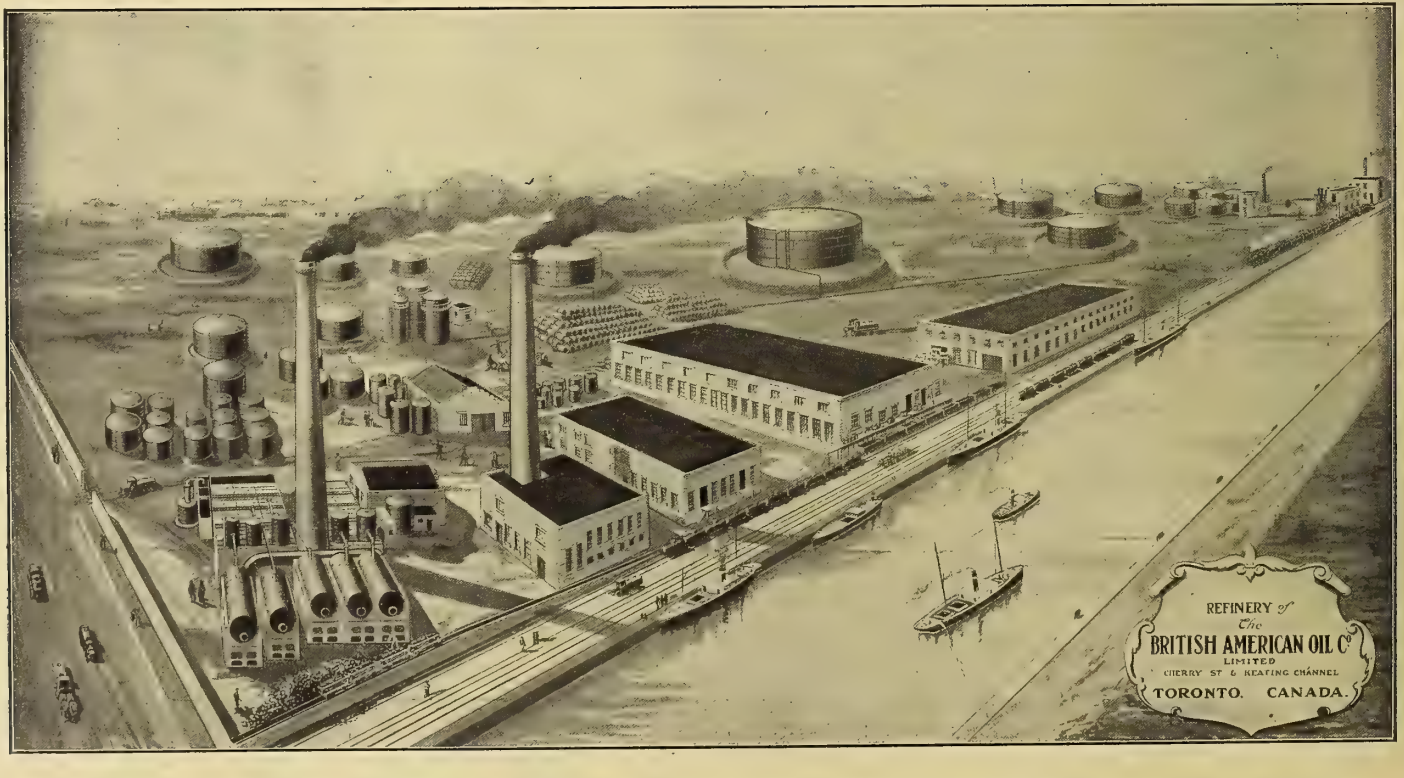


Metal-Cutting Shear Blades

GALT KNIFE CO.
Limited

GALT ONT.

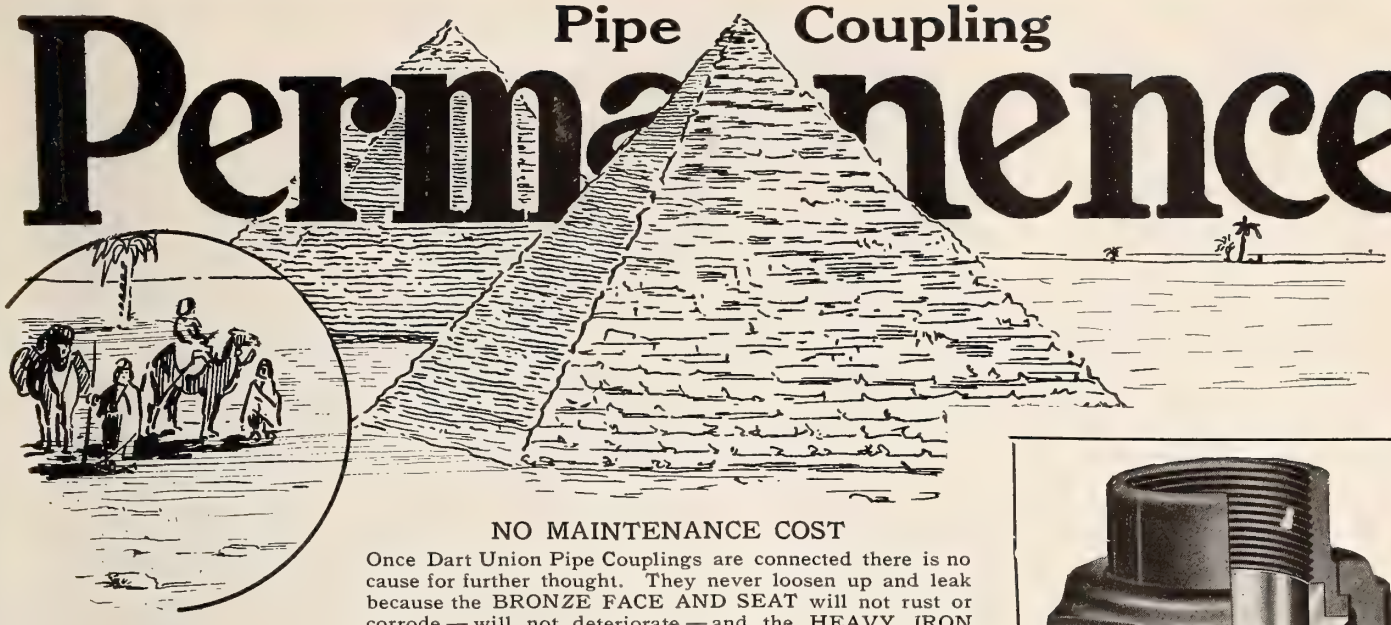
THE BRITISH AMERICAN OIL CO., LIMITED



Head Office: ROYAL BANK BUILDING, TORONTO

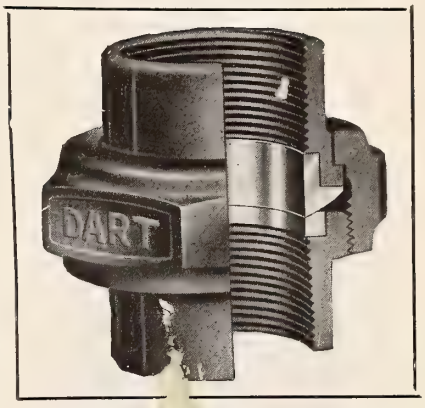
Branches: Montreal, Ottawa, London, Windsor, Etc.

Pipe Coupling Permanence



NO MAINTENANCE COST

Once Dart Union Pipe Couplings are connected there is no cause for further thought. They never loosen up and leak because the BRONZE FACE AND SEAT will not rust or corrode — will not deteriorate — and the HEAVY IRON PARTS will not stretch or pull apart.



NO REPLACEMENT COST

Dart Unions can be taken off one pipe line and put on another. Repeated use does not effect their efficiency.

NO LOSS FROM LEAKS

A leaky pipe coupling often causes damage and always causes expense in re-tightening. **Dart Unions never leak unless deliberately loosened.**

Manufactured by DART UNION CO., LIMITED, TORONTO, Canada

DART UNIONS WILL NEVER LOOSEN UP AND LEAK

GRACE & CO., LIMITED

DOMINION EXPRESS BUILDING

MONTREAL - CANADA

EXPORTERS

IMPORTERS

With our own extensive connections embracing practically all markets of importance we are in an unusual position to advise Canadian Manufacturers regarding Export Opportunities and also to submit offerings of the raw materials in which they are interested.

LONDON NEW YORK LIVERPOOL CALCUTTA
RIO DE JANEIRO LIMA TOKIO SHANGHAI SAN FRANCISCO
VALPARAISO CUBA JAMAICA BUENOS AYRES SANTOS
STOCKHOLM BARCELONA GENOA PARIS

Index to Advertisements.....Page 43 **Contents.....Page 45**

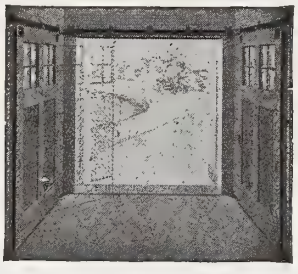


BULLDOG STEEL JOIST HANGERS

They never let go! Stronger than malleable. All sizes and styles for all kinds of work. Save space and time in erection.

GARAGE DOOR HARDWARE OF ALL KINDS FOR ANY PURPOSE

Angle Doors, Parallel Doors, etc. Special jobs receive the prompt attention of our engineering department. Let us know your requirements.





Put Your Trucks on The Ceiling!

The Modern Method of Factory Transportation

A Richards-Wilcox Carrier System---either I-Beam or Trolley---will pay for itself in one year on actual pay-roll saving, not to mention the increased efficiency. Occupies no floor space. Always ready for use. Operates easily, one man can handle 2,500 lbs. Trolley carriers made in sixteen styles and sizes for loads up to 2,500 lbs. For heavier loads use I-Beam Equipment.

Catalogs Upon Request

Richards-Wilcox Canadian Co. Ltd.

AURORA BOSTON NEW YORK CHICAGO — London Ontario — PHILADELPHIA MINNEAPOLIS SAN. FRANCISCO ST. LOUIS

"A hanger for any door that slides"

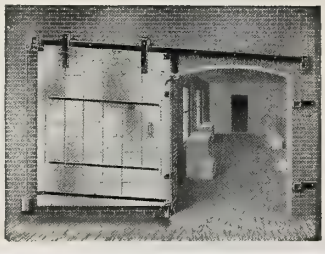
"R-W" TROLLEYS ARE BEST FOR ALL SLIDING DOORS



Specified by leading architects and engineers throughout Canada and the United States. "A hanger for any door that slides."

FIRE DOORS AND FIRE DOOR HARDWARE WITH UNDERWRITERS' LABEL

All styles, single or double, sliding or swinging. A fire door with labeled hardware is the surest way to prevent fire from spreading.



COPPER SPELTER LEAD

Tadanac Brand

PRODUCED IN CANADA

BY

The Consolidated Mining and Smelting Co. of Canada, Ltd.

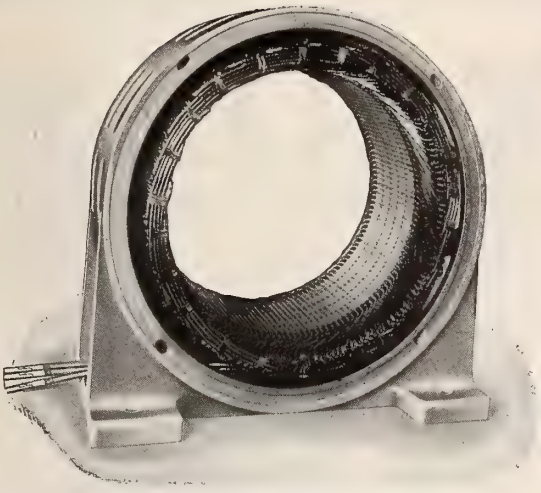
TRAIL, British Columbia

COPPER—Electrolytic Ingot, Bar, Slab and Cake

SPELTER—High-Grade Electrolytic Zinc, Brass Special and Prime Western

PIG LEAD—Chemical, Corroding and Common

Sales Office: C.P.R. Bldg., Toronto



Wound Stator (connection end)
150 H.P., 550 volts, 3 phase, 25 cycles, 375 r.p.m

Your labor costs—going up ?

THEY CERTAINLY ARE! WRONG TIMES THESE TO BUY MOTORS OF ANY BUT ABSOLUTELY PROVEN SUPERIOR DESIGN.

LOST WORKING-TIME WHILE A MOTOR IS "ACTING UP" OR BEING REPAIRED IS NOW TOO SERIOUS A MATTER.

ASK YOUR ELECTRICAL FRIEND WHAT HE THINKS OF CROCKER-WHEELER MOTOR DESIGN.

OPEN SLOTS—FORM WOUND COILS—EXTRA HEAVY INSULATION.

Canadian Crocker-Wheeler Apparatus and Service are available at all of the Branches of the

Montreal Halifax Ottawa Toronto London
Winnipeg Regina Calgary Vancouver

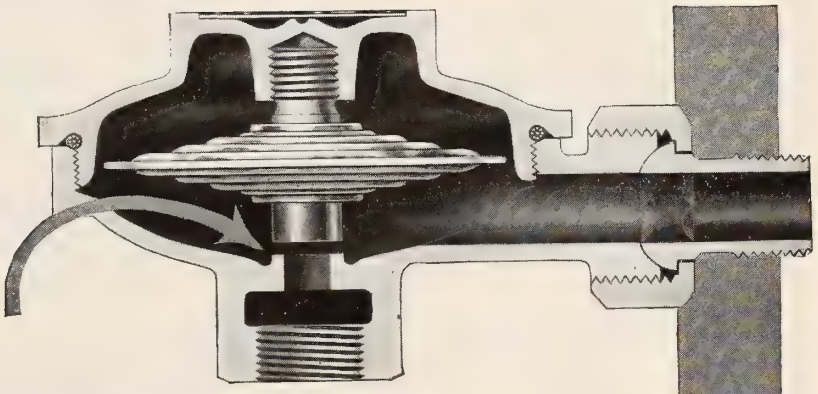
Northern Electric Company
LIMITED

THE CANADIAN
CROCKER-WHEELER COMPANY
LIMITED
Manufacturers and Electrical Engineers

Head Office and Works :
ST. CATHARINES, Ont.

District Offices :
TORONTO and MONTREAL

14 Lbs. Pressure downward



AS soon as steam strikes the sensitive corrugated disc, the disc moves towards its seat and exerts a maximum downward pressure of 14 pounds. This force is exerted uniformly by the vaporization of a liquid inside the corrugated disc.

This downward pressure causes the trap to be effective in spite of any grease and foreign matter which might have a tendency to accumulate on the seat.

The DUNHAM HEATING SERVICE

In action, the disc is alternately on and off its seat depending on the rate at which the steam is condensed in the radiator. Its action is always positive—is never sluggish—and can be depended on under conditions varying from 10 pound pressure to 15 inches of vacuum. Passes all water; wastes no steam.

Write for complete details

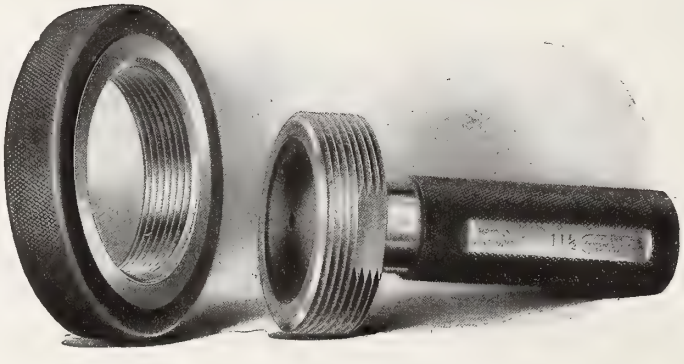
C. A. DUNHAM CO., Ltd., Toronto, Ontario

Halifax Ottawa Vancouver Montreal Winnipeg Calgary

SMALL TOOLS

MILLING CUTTERS

In High Speed or Carbon Steel



Plain Side Convex
Concave Angular
and
Special Forms

Special Inserted
Blade Cutters

Our tools are manufactured from the best materials procurable, by skilled workmen with most modern equipment.

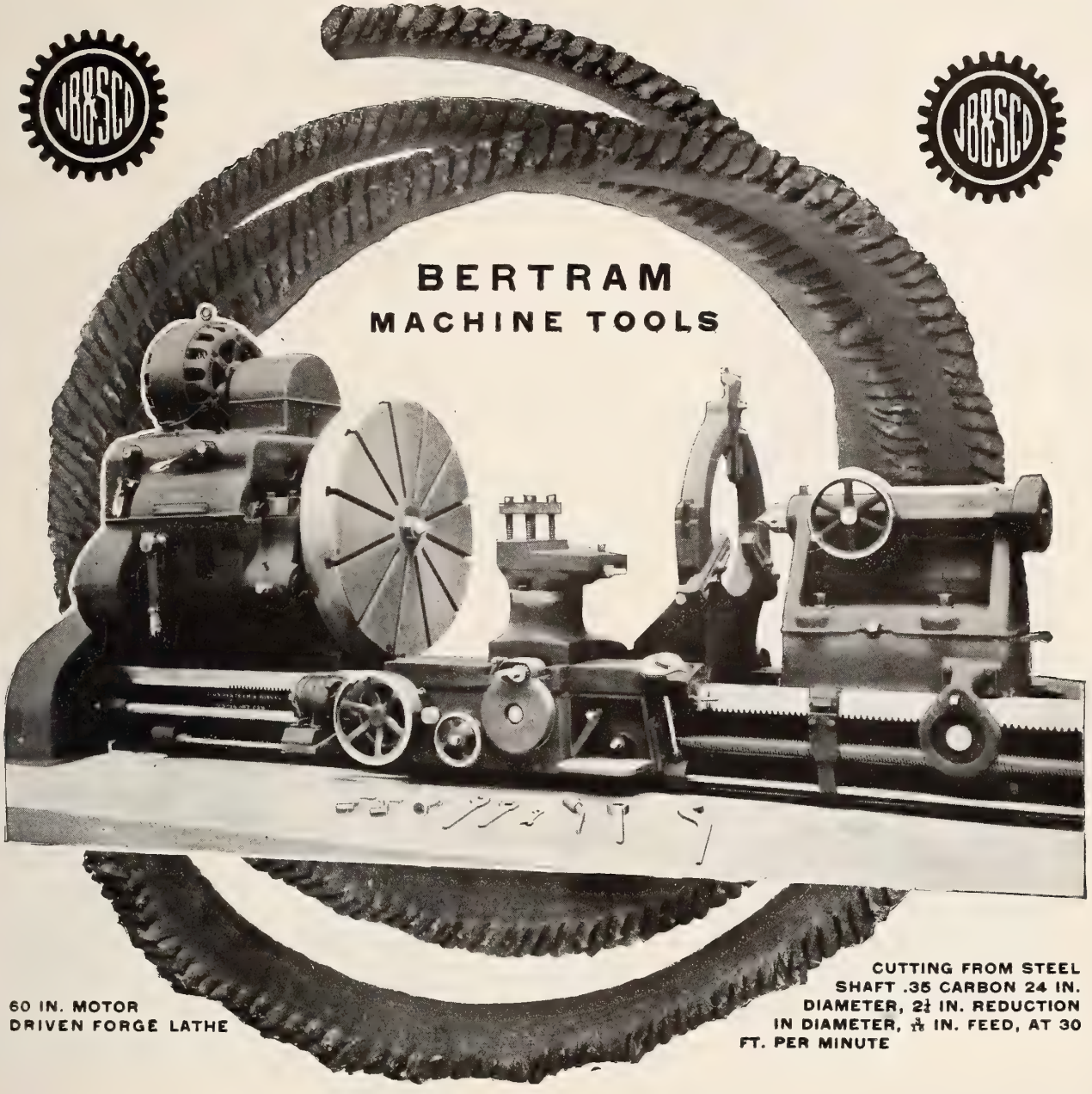
QUALITY GUARANTEED

Prompt service is assured at our nearest store, where P. & W. Small Tools are stocked for immediate delivery.

Write for Our No. 9 Catalogue

PRATT & WHITNEY CO.
of Canada, Limited
Dundas - Ontario

HALIFAX	MONTREAL	TORONTO	WINNIPEG	VANCOUVER
Davidson Bldg.	723 Drummond Bldg.	1002 C.P.R. Bldg.	1205 McArthur Bldg.	B.C. Equipment Co.



THE JOHN BERTRAM & SONS CO., LIMITED

DUNDAS - ONTARIO - CANADA

MONTREAL
723 Drummond Bldg.

TORONTO
1002 C.P.R. Bldg.

WINNIPEG
1205 McArthur Bldg.

HALIFAX
Davidson Bldg.

VANCOUVER
609 Bank of Ottawa Bldg.

Double Helical Cut Gears

CUT GEARS



The Double Helical, also called Herringbone Gear, is the strongest, quietest and, in every way, the best type of gear where quality counts.

We are glad to help you with suggestions or lay-outs on any kind of gear work.

Hamilton Gear Co., Ltd.
Van Horne Street - TORONTO

STELLITE

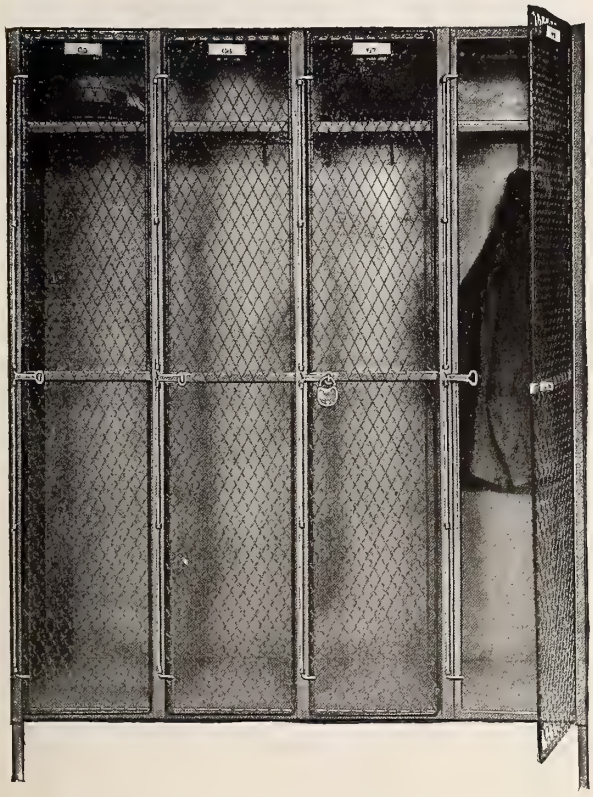
THE WONDER METAL

The Hardest Toughest Fastest Cutting Metal Yet Developed

Deloro Smelting & Refining Co.
Limited
DELORO, ONT. TORONTO
200 King St. West



THIS man doesn't worry about anyone going through his clothes while he is at work. He knows that all his personal effects are safe.

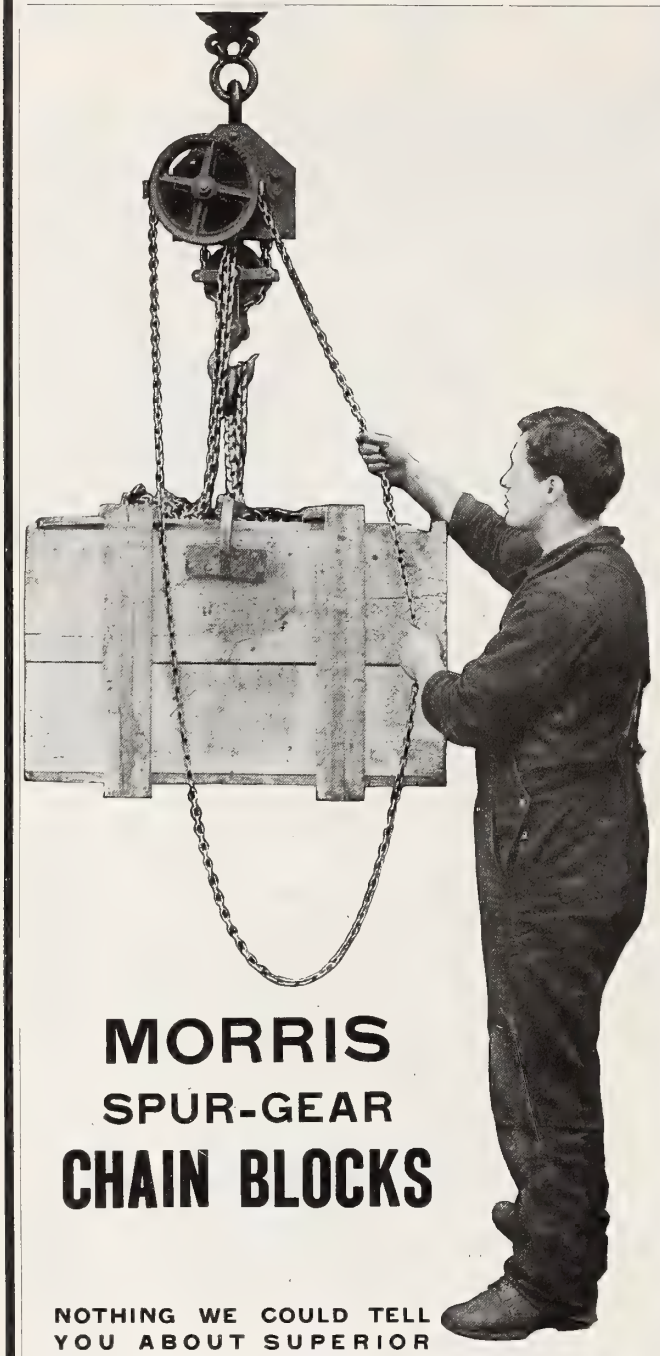


Our No. 2124 Locker has an open mesh door which allows the air to circulate and ventilates the clothing.

You can see the contents of the locker which is often a desirable feature, especially in candy factories.

This is the locker for the up-to-date Canadian plant. You will like it.

THE GEO. B. MEADOWS
TORONTO WIRE, IRON & BRASS WORKS CO
LIMITED
TORONTO ---------- CANADA



MORRIS
SPUR-GEAR
CHAIN BLOCKS

NOTHING WE COULD TELL YOU ABOUT SUPERIOR QUALITIES OF THESE BLOCKS COULD BE HALF SO CONVINCING AS AN ACTUAL TEST IN YOUR OWN SHOP UNDER ORDINARY WORKING CONDITIONS.

MADE IN CAPACITIES FROM ½ TON TO 5 TONS. PORTABLE AND TRAVELING TYPES.

WE ALSO BUILD THE WORM AND TRIPLE GEAR TYPES FOR LARGER CAPACITIES. ASK US ABOUT THEM.

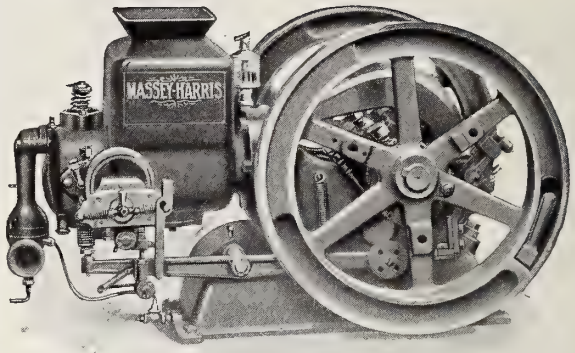
The Herbert Morris Crane & Hoist Company, Limited

NIAGARA FALLS ONTARIO

TORONTO OFFICE, Kent Building

MONTREAL OFFICE 296 St. James St

Massey-Harris



An Engine You Can Depend On

The Massey-Harris Engine can be depended on to give all the year 'round service in any kind of weather at minimum cost, because it's designed on scientific principles and every part built to stand up and wear long.

Think what these features mean:

- Simple in operation.
- A Simple and Efficient Carburetor gives a perfect mixture in any kind of weather.
- Effective Governor—No charge or spark on Idle Stroke.
- Valves Easily Removable.
- Large Water Space surrounding Cylinder.
- Safe Gasoline Storage in the substantial Cast-Iron Base.

Write for more detailed description of the Massey-Harris Gasoline Engine.

Made in Sizes to deliver from 2 to 15 H.P.

MASSEY-HARRIS CO., Limited

Head Office—Toronto, Canada

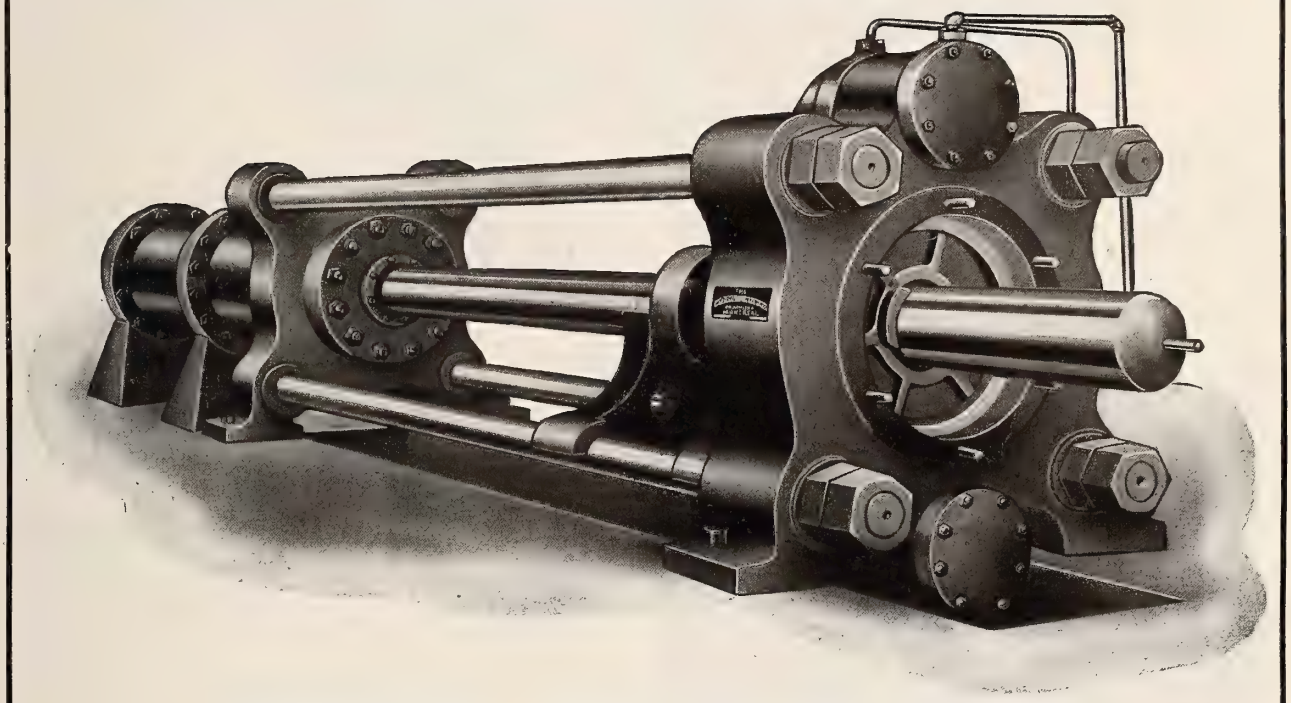
Canadian Branches at

Montreal Moncton Winnipeg Regina Saskatoon
Swift Current Yorkton Calgary Edmonton

AGENCIES EVERYWHERE

HYDRAULIC AND POWER
PRESSES
PUMPS AND ACCUMULATORS
FOR ALL USES

ONE OF OUR SPECIALS



HYDRAULIC TUBE DRAWING BENCH

250 Tons Pressure
Length over all 37' Stroke 14' Cylinders 25"
Pressure 1200 to 1500 lbs.

Also a Full Line of Pulp and Paper Mill Machinery

THE REPUTATION OF OUR PRODUCT HAS BEEN ESTABLISHED BY YEARS OF INCREASING CARE IN MANUFACTURING

Descriptive matter on all lines sent upon request

Talking it over involves no obligation, no charge.

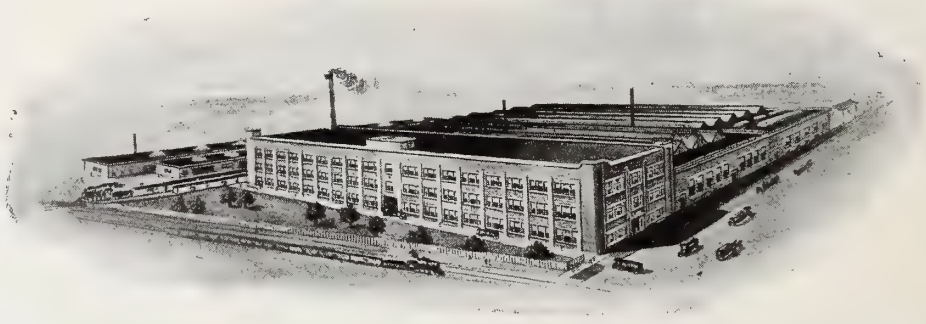
The Hydraulic Machinery Company
Limited

MONTREAL **CANADA**

BANFIELD

Sheet Metal Stamping *Pressed Steel Parts* *Lighting Fixtures*
Stamped and Spun Brass Goods *Screw Machine Parts*

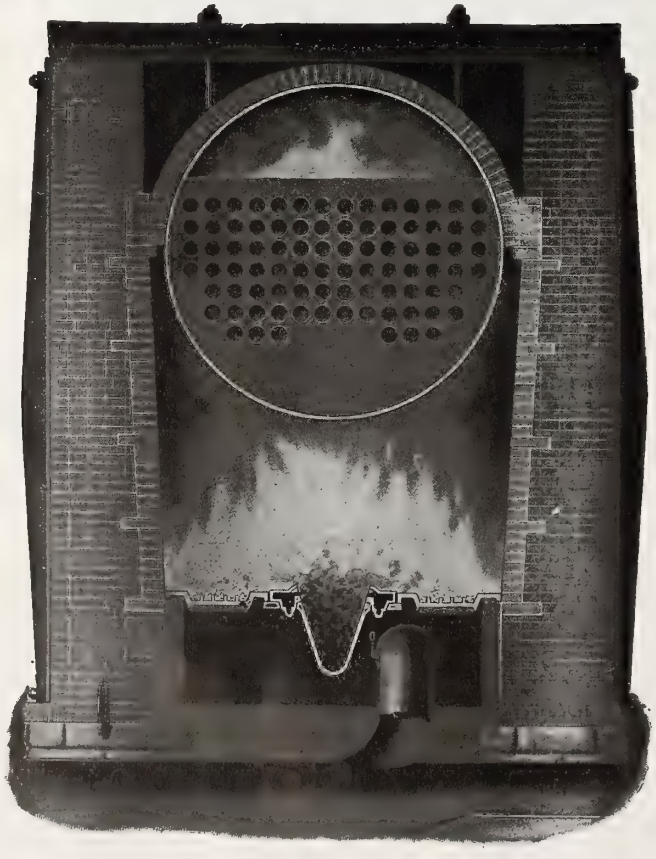
A complete service for both manufacturers and dealers. Mammoth facilities. Expert workmanship. Prompt deliveries.



W. H. BANFIELD & SONS, LIMITED

Head Office and Works:
370-384 PAPE AVE., TORONTO

Sales Office and Showrooms:
80 KING ST. W., TORONTO



The Principle is Correct

and so is the mechanism by which the principle is applied. This explains the complete efficiency of

The Jones Underfeed Stoker

No moving parts are exposed to the fire. There are no frills or fads in its construction—only simple necessities. It embodies, however, everything that is really necessary for the complete burning of coal under great fluctuations of load and widely varying grades of fuel.

With a Jones Underfeed Stoker you can use any grade of fuel from dust to run of mine, and you will accomplish savings ranging from 15% to 25% no matter what grade of fuel you use.

Illustrated Literature
Mailed on Request

Jones Underfeed Stoker Co.
Limited
37-41 Britain Street, Toronto

Where Jenkins Bros.' Valves are Made

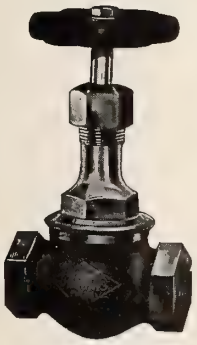


Fig. 106



Factory and Head Office of
JENKINS BROS. LIMITED
Montreal, Canada



Fig. 141

Where plants are scientifically operated, valve value is measured by service rendered, and by yearly ***lack*** of up-keep cost.

If valves break down before other items of equipment, an injustice is done to the entire plant; because valves should last as long as good plant equipment. Good valves do.

Consider—40 per cent. of the Nation's Coal Pile is lost each year by power plants, from their coal investment through poor steam transmission, and from unnecessary labor costs.

JENKINS BROS.' VALVES will keep your plant running and save you money.

A Protection to the User

A steam user who installs Jenkins Bros.' Valves, can do so with the knowledge that he is protected by the maker against defects and imperfections. Our dealers have instructions to replace, without question, any imperfect or defective Jenkins Bros.' Valve returned to them.

Catalogue No. 8 sent free on request.

Head Office and Works
103 St. Remi St.
Montreal - Canada

JENKINS BROS.
Limited
Agencies in All the Principal Countries of the World

European Branch:
6 Great Queen St.
Kingsway
London, W.C. 2, Eng.



ALGOMA

STRUCTURAL STEEL – MERCHANT BARS

Blooms, Billets and Slabs
Concrete Reinforcing Bars
Shafting – Pulleys – Hangers
Iron, Brass, Bronze and Steel Castings

Sulphate of Ammonia Nitre Cake
Sulphuric Acid

STEEL RAILS – Open Hearth Quality

Splice Bars Steel Tie Plates
Light Rails – 12 lbs. to 45 lbs.

PIG IRON

Basic Foundry Bessemer Spiegel

ALGOMA STEEL CORPORATION
LIMITED

SAULT STE. MARIE - - - - ONTARIO

We have large stocks of

Shafting
Hangers
Pulleys
Couplings
Collars, etc.

Ready for Immediate Shipment

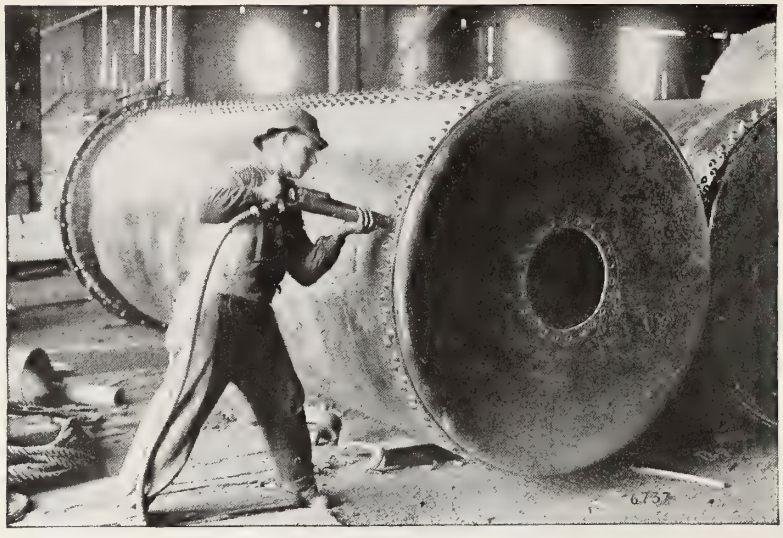
Phone Orders Receive
Immediate and Accurate Attention

DODGE

Manufacturing Co., Limited
TORONTO - - - - - ONTARIO

CANADA'S LARGEST BUILDERS OF TRANSMISSION MACHINERY

When writing advertisers, please mention INDUSTRIAL CANADA



Speaking In No Uncertain Voice
of "Little David" Action and Vigor

WHAT YOU WANT

When you buy a pneumatic riveter you want a tool of simple and durable construction that may be readily taken apart for cleaning; is easy to handle, and of perfect balance, permitting speedy operation with a minimum of vibration.

WHAT THE "LITTLE DAVID" RIVETER GIVES YOU

"Little David" Riveters are made in various sizes for different classes of work with speeds ranging from 1,000 to 3,000 blows per minute. The barrel and handle are sand blasted, making the tool easy to hold, perfect balance reduces vibration, and the parts which are few in number are made of the highest grade of materials obtainable, thoroughly heat-treated and ground where necessary, and are subjected to rigid inspection during the process of manufacture which ensures the long and useful life of the "Little David" Riveter.

Bulletin 8411 Illustrating and describing the "Little David" Riveter will be sent on request

Canadian Ingersoll-Rand Company Limited

Sydney Sherbrooke Montreal Toronto Cobalt Winnipeg Nelson Vancouver



THIS ROLLING STEEL DOOR HAS BEEN THROUGH A FIRE

When the fire hit this Toronto warehouse it made a clean-up on one flat, then started for the elevator shaft to go up the shaft and start its dirty work on the next floor, but it did not get there for our door equipped with our fusible link device promptly dropped. The flames welled up against it without getting anywhere. The fire burned itself out on the one flat, where if this fireproof barrier had not been in the way it would have eaten up the interior of this five-storey building.

Our Rolling Steel Doors are the logical answer to protecting your elevator shaft. They take up practically no side or head room, very easily operated, last indefinitely and close automatically, no matter in what position they are left.

WRITE US FOR CATALOG — AND LET US QUOTE

THE A. B. ORMSBY COMPANY LIMITED, TORONTO

Associated with THE METAL SHINGLE & SIDING CO., LIMITED
Factories at Preston, Toronto, Montreal, Winnipeg, Saskatoon, Calgary.

MARITIME PROVINCES
F. A. GILLIS & CO., HALIFAX, N.S.

-:- AGENTS -:-

BRITISH COLUMBIA
A. T. CHAMBERS, VANCOUVER

TRUSSED CONCRETE STEEL CO. of Canada Limited
Truscon
BUILDING PRODUCTS

Truscon

IN this day of science and practical efficiency, the construction of factory buildings has become the subject of the most highly trained thought and effort. Where once mere shelter from the elements, a working temperature, and low building expense were the chief requisites sought, now there stand out four great features, namely: ***Maximum daylight, proper ventilation, fire protection*** and ***permanency.*** Experience has proved that to obtain these

Trussed Concrete Steel Co. *of* Canada, Limited

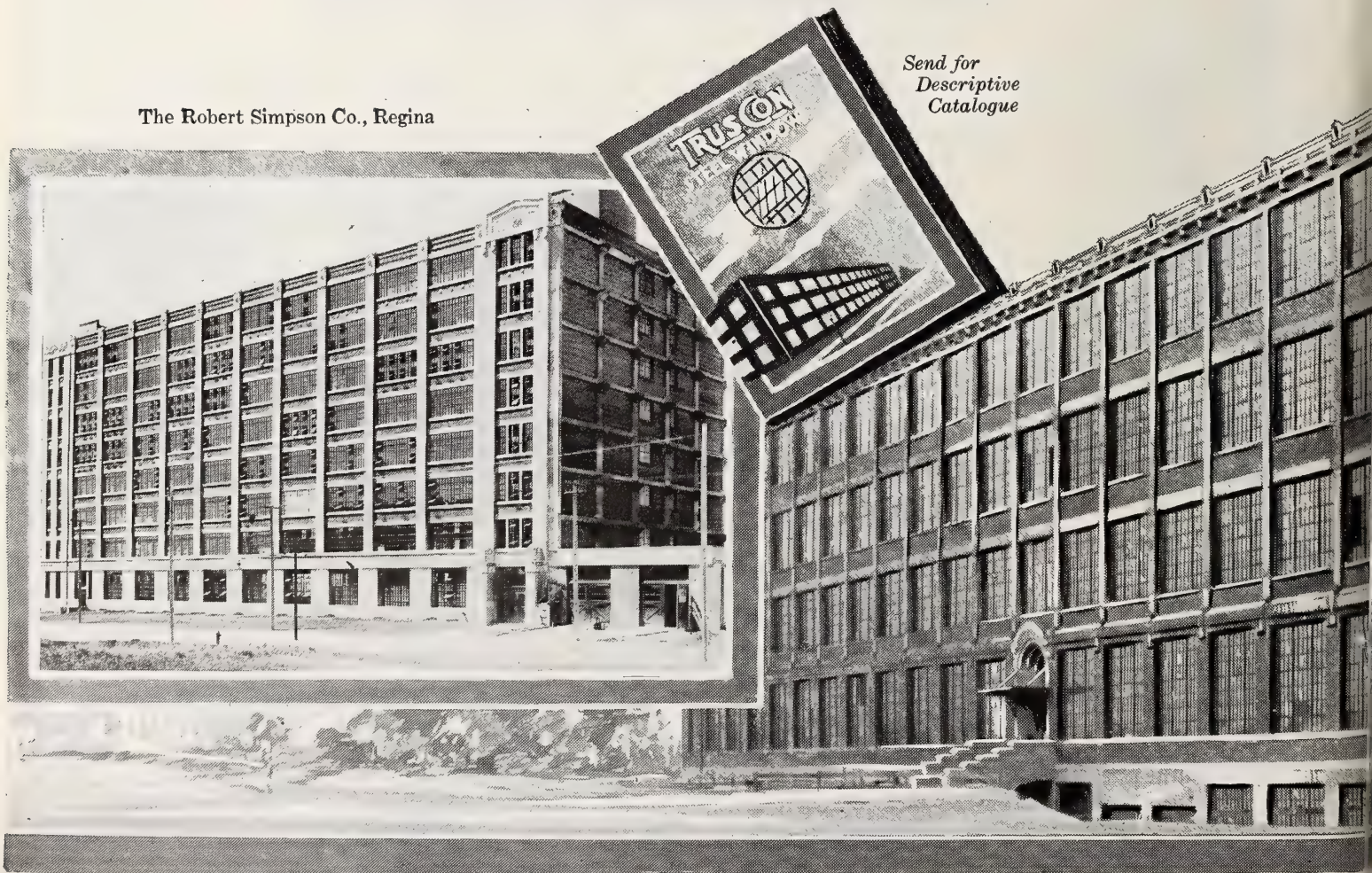
Walkerville, Ontario

Montreal Toronto Winnipeg Calgary Vancouver

Warehouses at Toronto, Winnipeg and Calgary

Send for Descriptive Catalogue

The Robert Simpson Co., Regina



Steel Sash

features in full measure, concrete and steel construction are necessary. And to secure the most daylight, wider expanses of glass windows are required–best made possible by the use of Truscon Steel Sash. Through Truscon Steel Sash all the advantages of perfect ventilation, excellent lighting, fire protection, and permanency are gained without any sacrifice of structural dignity. In fact, Canada's best buildings, in point of beauty and utility, are all equipped with Truscon Steel Sash.



Canadian Consolidated Rubber Co.
Kitchener

CANADIAN FURNACE CO.

LIMITED

PORT COLBORNE, ONT.

Manufacturers of Pig Iron

BRAND "VICTORIA"

"VICTORIA" FOUNDRY IRON

Strong—Soft—Neutral

"VICTORIA" MALLEABLE IRON

Furnished to all Standard Analyses

SOLE SALES AGENTS:

M. A. HANNA & CO.

Cleveland, Ohio

BUFFALO, N.Y. PITTSBURG, PA. DETROIT, MICH.

TORONTO, ONT.

Dependable and Efficient Power Equipment

Land

Horizontal and Vertical Steam Engines

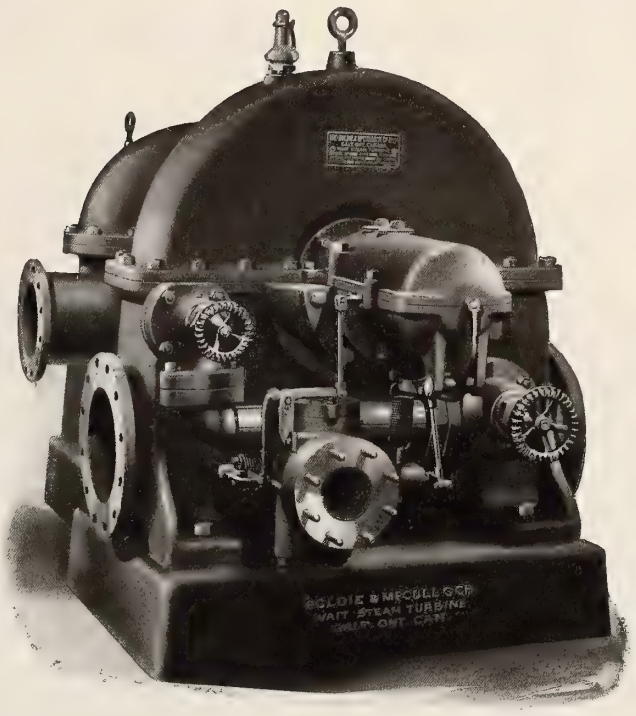
Steam Turbines

Return Tubular and Water Tube Boilers

Heaters

Centrifugal and Reciprocating Pumps and Condensers

Transmission Appliances



Marine

Compound and Triple Expansion Marine Engines

Ships' Lighting Sets

Vertical Bilge and Ballast and Boiler Feed Pumps

"Contraflo" Condensers Heaters Filter and Drain Tanks

Morison's Radial Evaporators

Ships' Side Lights etc.

Illustration shows a Goldie & McCulloch "Wait" Steam Turbine direct connected to centrifugal pump.

We also build SAFES, VAULTS AND VAULT DOORS, Deposit Boxes, etc. G. & McC. Co. Safes have never failed to preserve their contents in all of Canada's great fires for the last forty years.

Any of our catalogues and the advice of our Engineering Department are yours for the asking.

THE GOLDIE & McCULLOCH CO., Limited

Head Office and Works: GALT, ONTARIO, CANADA

TORONTO OFFICE: Suite 1101-2 Bank of Hamilton Bldg.

WESTERN BRANCH: 248 McDermott Ave. Winnipeg, Man.

QUEBEC AGENTS Ross & Greig 400 St. James St., Montreal, Que.

BRITISH COLUMBIA AGENTS: Robt. Hamilton & Co. Vancouver, B.C.

B.C. Safe Agent: C. L. FORD, 569 Richards St. Vancouver, B.C.

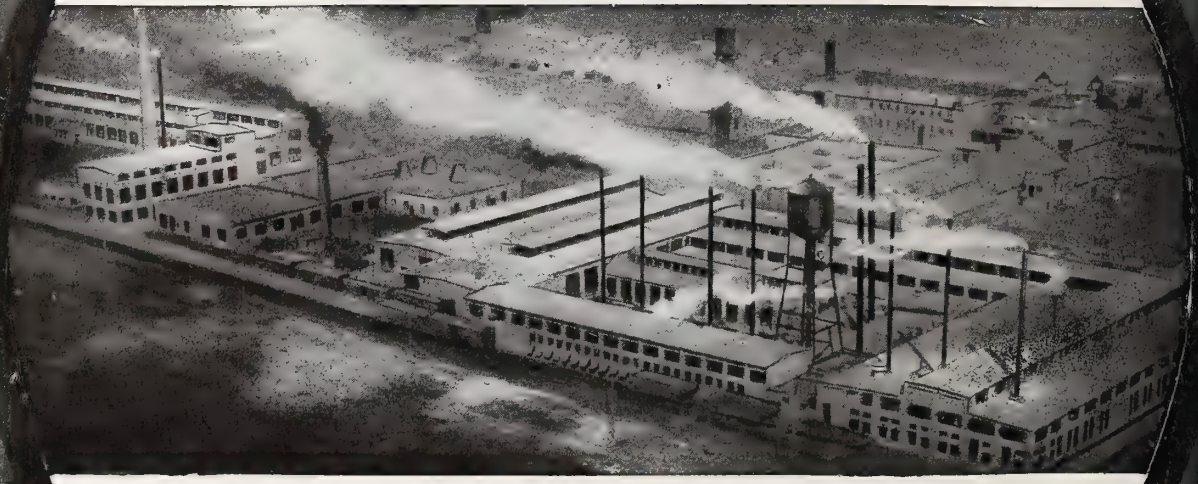
Maritime Safe Agent: E. L. STAILING, 16 Roy Bldg., Barrington St. Halifax, N.S.



BROWN'S

Beaver Brand Metals

Copper, Brass, Bronze, Canada Silver, and Gilding Metal in sheets, rolls, plates and rods. Naval Bronze, Yellow Metal and Muntz Metal in sheets and rods for shipbuilding requirements. Specify Beaver Brass Rod for drilling and free cutting. Extruded shapes.



Guaranteed Ingot Metals—Yellow, Red and Composition Ingots.
We are Purchasers of Copper Bearing Material.

Link up with Beaver Brand Products—you'll like the quality, price and service.

Brown's Copper & Brass Rolling Mills, Limited

New Toronto, Ont., Can.

COPPER & BRASS
BROWN'S
QUALITY
ROLLING MILLS

C.G.E. Fractional H.P. Motors

Every manufacturer who markets a motor-driven article should take into consideration that if the motor fails to give satisfaction, the whole machine will be condemned.

It is therefore obvious that the utmost care must be exercised in choosing the type of motor that will give maximum satisfaction with minimum attention, relative to the particular requirements of your product.

The C.G.E. Fractional H.P. Motor is a power unit that has stood the test of time. It is giving universal satisfaction in scores of different types of motor-driven appliances—from the Vacuum Cleaner and Washing Machine for the housewife, the Meat Cutter and Coffee Grinder for the butcher and grocer, to the Adding Machine and small Printing Press for the office.

Let us assist you in selecting or building the right motor under one h.p. to operate the machine you are now or contemplate making.

Write our nearest sales branch for full particulars.

Canadian General Electric Co.
LIMITED

Head Office : TORONTO

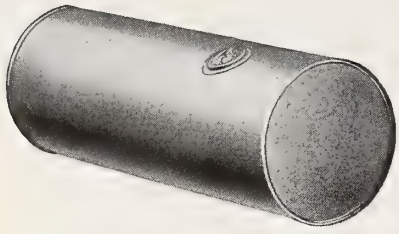
Branch Offices :
MONTREAL, QUEBEC, HALIFAX
SYDNEY, ST. JOHN, OTTAWA
HAMILTON, LONDON, WINDSOR
COBALT, SOUTH PORCUPINE
WINNIPEG, CALGARY, EDMONTON
NELSON, VANCOUVER and
VICTORIA

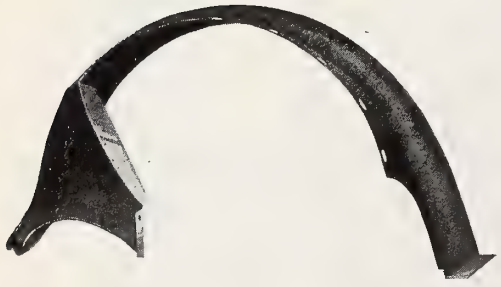


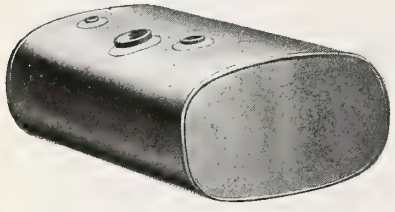






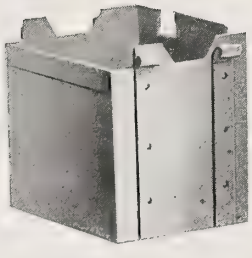


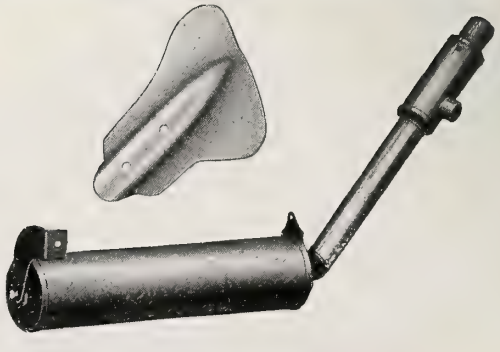












—and here's the proof—

of our exceptional skill in the production of all kinds of

STEEL STAMPINGS

OUR regular business for many years has been based on metal stamping. Consequently, we have developed a metal stamping department with batteries of heavy presses, hammers and other up-to-date equipment that make for the very highest efficiency.

We are doing a vast amount of automobile body stampings—work that is of the most difficult character. Our success in this line clearly indicates our ability to serve you.

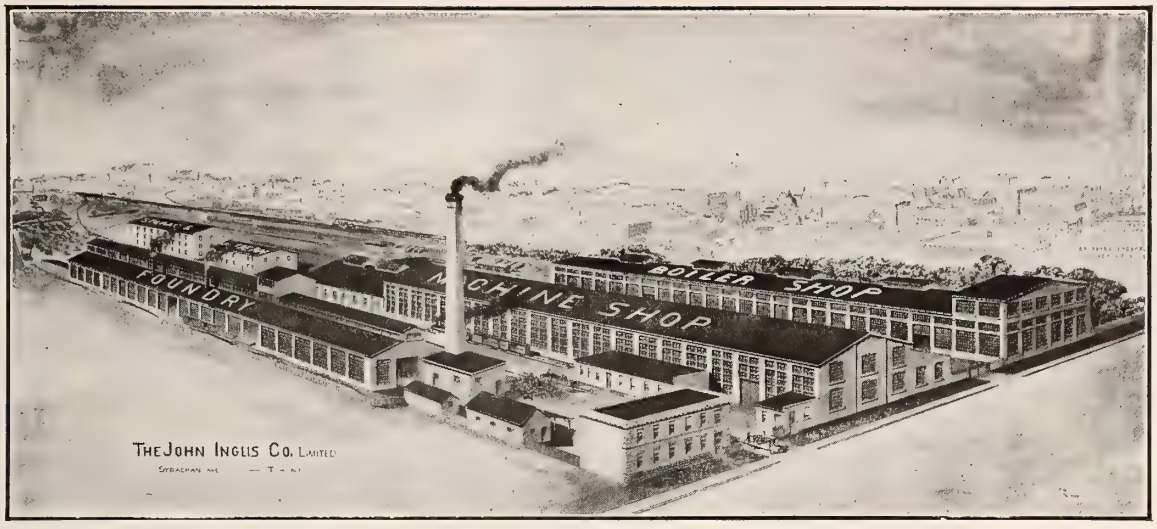
If you are in the market for steel stampings of any size, write us for quotations. Our prices, the quality of our work and the reliability of our service will give you complete satisfaction.

THE PEDLAR PEOPLE LIMITED

Established 1861

Executive Office and Factories: Oshawa, Ont.

Branches: Montreal, Quebec, Ottawa, Toronto, Winnipeg, Vancouver



Plant of the John Inglis Co., Limited

ENGINES BOILERS AND TANKS

of All Kinds for Any Service

Send us your enquiries

THE JOHN INGLIS COMPANY, LIMITED

Engineers and Boilermakers

14 STRACHAN AVENUE - TORONTO, CANADA

Representatives in Eastern Canada—JAS. W. PYKE & CO., Limited, 232 St. James Street, Montreal

Ottawa Representative—J. W. ANDERSON, 7 Bank Street Chambers

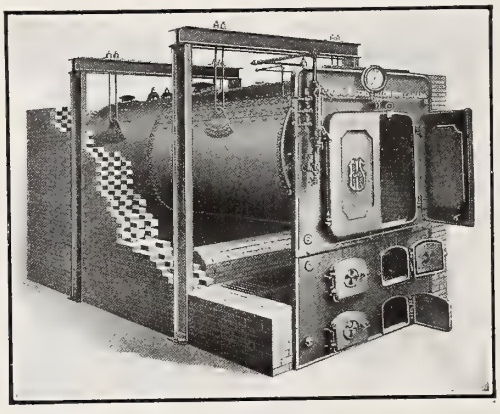


FINISHED BRIGHT
FOR
ELECTRO PLATING
DEEP DRAWING QUALITY
ACCURATE GAUGE AND WIDTH
WE SOLICIT YOUR ENQUIRIES

MANUFACTURED BY
STANLEY STEEL CO., LTD.
Hamilton, Canada

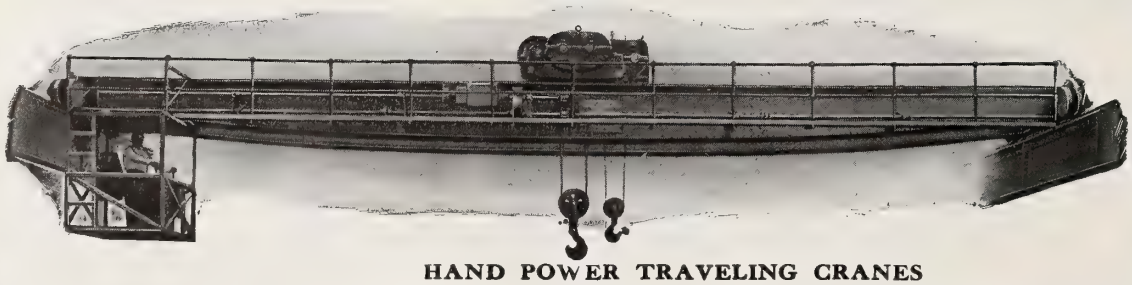
E. LEONARD & SONS, LIMITED
London, Ontario

Manufacturers of BOILERS, ENGINES of all types and sizes



BRANCHES:
1790 St. James St., Montreal, Que. 62 Water Street, St. John, N.B.
AGENTS:
Vancouver Machinery Depot, Limited, Vancouver, B.C. George Stewart, 5 Lineham Block, Calgary, Alta.
Wm. W. Hicks, 567 Banning St., Winnipeg, Man. Thos. A. Pippy, Waldegrave St., St. Johns, Nfld.
E. J. Philip & Sons, 103 Hamilton Trust Bldg., Toronto, Ont.

"CRANES MADE IN CANADA"



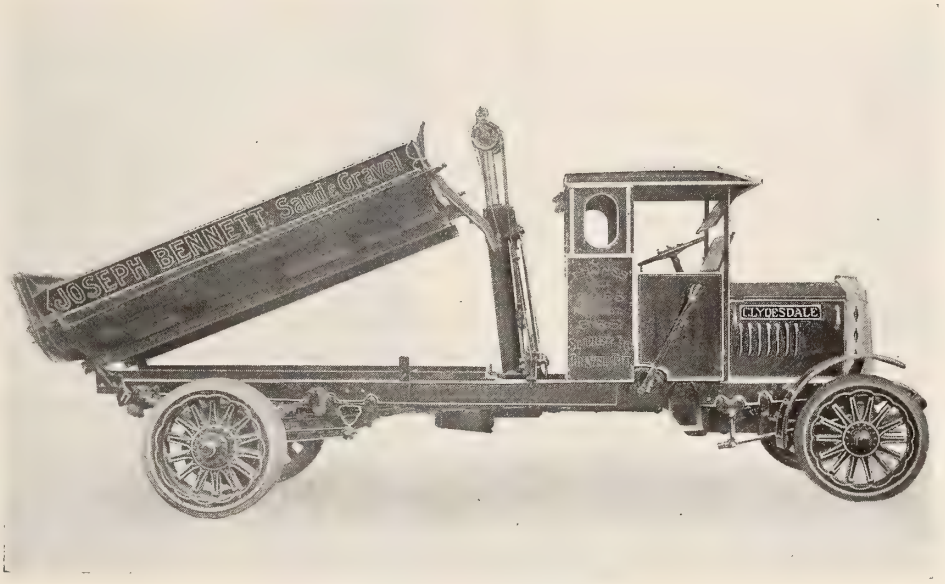
Electric Traveling Cranes

HAND POWER TRAVELING CRANES
ELECTRIC HOISTS, AIR HOISTS, FOUNDRY EQUIPMENT
Northern Crane Works, Limited - - - - Walkerville, Ontario

Clydesdale

MOTOR TRUCKS

MADE IN CANADA



CLYDESDALE 3½ TON TRUCK

The compared prices of two makes of trucks mean but little. What a truck costs is what it costs **per year of Service.**

CLYDESDALE TRUCKS are consistently maintaining the records earned all over the world of low operating and upkeep costs. This is entirely due to the inbuilt goodness and the perfection of design of the Clydesdale.

CLYDESDALE is built by a Canadian Manufacturer who established here to better serve Canadian Manufacturers. The manufacturers of Clydesdales can give the best service in Canada to users of motor transportation units.

CLYDESDALE TRUCKS ARE PRODUCED
in 1, 1½, 2½, 3½ and 5 ton capacities

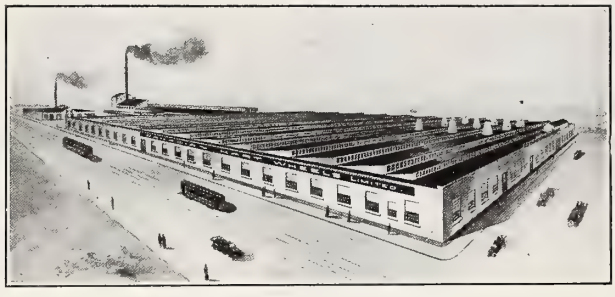
THE CLYDE CARS COMPANY CANADA LIMITED

Factory and General Offices—73-81 Pearl Street
TORONTO, CANADA

Canadian Hart Wheels

CUT FASTER LAST LONGER

Than any other wheels on the market



OUR NEW MODERN PLANT

Tell us the service you want performed and we will supply you with an abrasive wheel that will save you time, money and worry.

Send for one of our catalogues and tell us your troubles. We do the rest.

CANADIAN HART WHEELS LIMITED
HAMILTON - - ONTARIO



You Pay for Good Wire

whether you use it or not. If you buy a cheap wire whose quality is kept down to meet a price instead of up to meet a standard, you may pay several times the cost of good wire in replacement of your wiring or the building in which it is installed.

"Sterling" Rubber Insulated Wire

is kept up to a high standard of dependability and is sold at a reasonable price that makes it available for the cheaper class of buildings. It has always exceeded the requirements of the N. E. C. by a liberal margin, which constitutes the purchaser's insurance against the defective wire risk.

Write our nearest office for samples and prices

Standard Underground Cable Co. of Canada, Limited

General Offices and Works:

Hamilton, Ont.

Montreal, Que. Toronto, Ont.
Hamilton, Ont. Seattle, Wash.

Nova Scotia Steel & Coal Co. LIMITED

PLATES

1/8 to 5/8" thick up to 48" wide, weighing up to 1060 lbs. each

Fluid Compressed Steel Forgings

We manufacture Merchant Bars, Rounds, Flats, Squares, Ovals, Half Ovals, Tires, Sleigh Shoes, Plain or Twisted Concrete Bars, Agricultural Sections, Cold Drawn Shafting, Machinery Steel, Angle Bar Fish Plates, Track Spikes and Bolts.

General Sales Office:
WINDSOR HOTEL, MONTREAL

Head Office:
NEW GLASGOW, N.S.

PRINTING AND LITHOGRAPHIC INKS
DYES
DRY AND PULP COLORS FOR ALL TRADES

Manufactured by

THE AULT & WIBORG CO.
of Canada, Limited

Also Manufacturers of

JAPANS

Baking and Air Drying Enamels
Varnishes, Etc. For all purposes

ADDRESS US AT ANY OF THE THREE CITIES

Montreal **Toronto** **Winnipeg**

Oxy-Acetylene Welding and Cutting



Making Sheet Metal Chemical Tanks by Prest-O-Lite Process

"Rivetless" Metal Joining Makes Tanks Leak-proof

Here is shown how permanently leak-proof sheet metal tanks are made by the Prest-O-Lite Process. The metal sheets are first cut to shape with a Prest-O-Lite cutting blow-pipe. They are then set in position, and all joints are welded by the Prest-O-Lite Process of oxy-acetylene welding. The joints are made stronger, neater, and at less cost than by riveting. All danger of leakage at joints is eliminated.

In repairing as well as in manufacturing the Prest-O-Lite Process is literally "blazing the trail" to efficiency and economy. It saves hundreds of thousands of dollars annually in Canadian factories, mines, machine shops—wherever metal or machinery is used.

Prest-O-Lite PROCESS

employs both gases (acetylene and oxygen) in portable cylinders. Prest-O-Lite Dissolved Acetylene is backed by Prest-O-Lite Service, which insures prompt exchange of full cylinders for empty ones; provides dry, purified gas, insuring better welds, quicker work and lower operating cost.

Apparatus consists of an equal pressure blow-pipe, automatic regulators and gauges, and all necessary equipment. Adaptable for oxy-acetylene cutting by the addition of special cutting blow-pipe.

Thorough instructions are furnished free to every user of Prest-O-Lite Dissolved Acetylene. Any average workman who understands metals can learn the welding process quickly and easily.

We will gladly send illustrated literature and interesting data showing actual instances of savings made by others. It may suggest valuable ideas to you. Write for it.

Address Department C-104.

Prest-O-Lite Company of Canada, Limited

Prest-O-Lite Building
Cor. Elm St. and Centre Ave.
TORONTO



PLANTS AT
Toronto, Ont. Shawinigan Falls, P.Q.
Merritton, Ont. St. Boniface, Man.

World's Largest Makers of Dissolved Acetylene



ECONOMY renewable FUSES

are in greater demand than any other fuses because ever since their first appearance on the market their performance has proved them worthy of the trust placed upon them.

They are accurately rated—efficient in operation. They are safe in every respect—not sometimes, but always.

As compared with the use of one-time fuses they cut annual fuse maintenance costs 80%.

An inexpensive "Drop Out" Renewal Link restores a blown Economy Fuse to its original efficiency.

Economy Fuses and Links live up to their name. The economy they effect is considerable—too big for you to ignore. Besides, you will profit by the added measure of safety they insure.

Sold by all electrical jobbers and dealers.

Write for Catalogue 40

Economy Fuse & Mfg. Co. of Canada, Ltd.

Unity Building, MONTREAL

Manufacturers in Canada of S. & C. High Potential Fuses—to 150,000 volts

THIS TRADE-MARK appears on all Machine Tools for Wood and Iron Working, manufactured by us, and is a guarantee that the quality and workmanship are of highest standard.

C.M.C.

See them at the Fair

We purpose as usual having a large assortment of high grade iron and wood working machines on exhibit in the Machinery Hall at the Canadian National Exhibition at Toronto, August 23rd to September 6th, 1919, and we cordially invite all parties interested in such machinery to call and inspect our line. A staff of experts familiar with all the machines in detail will be present to explain all points of advantage or interest. By this means we trust to convince machinery users that we manufacture a line of machinery well worthy of the guarantee trade-mark we put upon it.

CANADA MACHINERY CORPORATION, LIMITED, GALT, ONTARIO

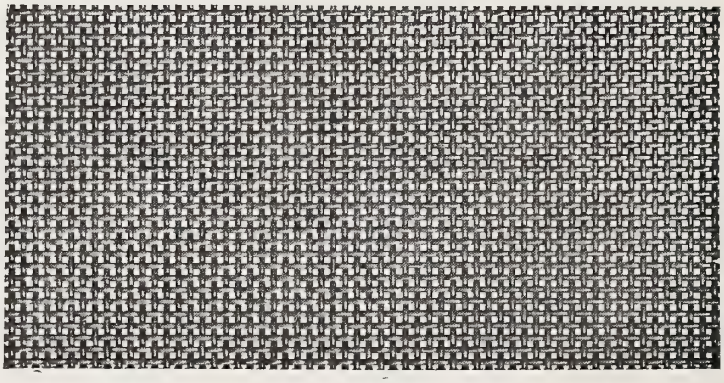
TORONTO OFFICE AND WAREROOMS---BROCK AVENUE SUBWAY

THE B. GREENING WIRE CO. LIMITED

MANUFACTURERS OF

WIRE CLOTH **WIRE ROPE**

PERFORATED METALS



Hamilton, Ont. **Montreal, Que.**

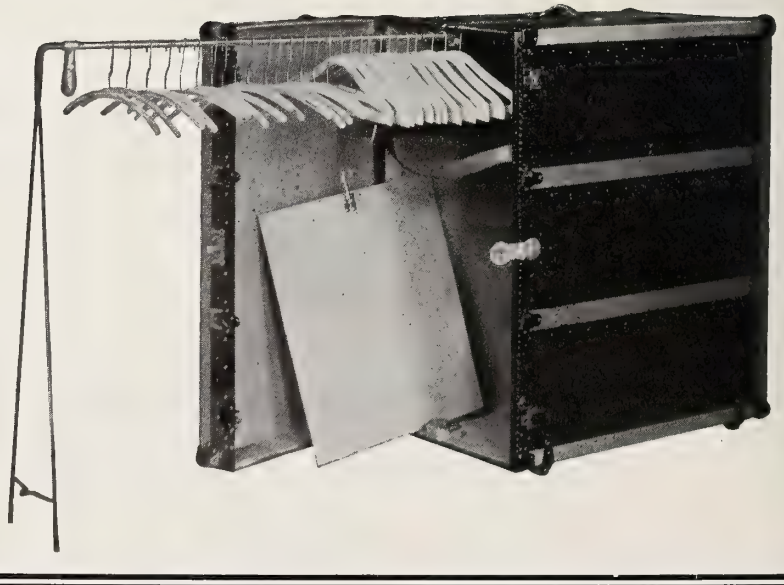
SHOW YOUR SAMPLES UNWRINKLED

WARDROBE TRUNKS

for Suits, Coats, Dresses and Waists

WE MAKE
SAMPLE TRUNKS
AND CASES
FOR EVERY
BUSINESS

Let us know your needs and get our prices.



The M. Langmuir Mfg. Co. of Toronto
Limited



General Efficiency Demands the Use of

BERNARD
Wood Split Pulleys

The war is ended so far as a continuation of the bloody combats of the battlefields is connected. But in the war after the war there will be waged lively battles for industrial supremacy wherein the advantage will lie with the plant equipped with the most economical and durable machinery.

Competition will be more intense, and in this connection, keep your eye on the overhead. It has been looming large these past few years and must certainly come down.

BERNARD Wood Split Pulleys will help you eliminate power waste; their cost is low, their efficiency is GREAT.

The A. Bernard Industrial Co.

Manufacturers of High-Grade Power Transmission Appliance

Office and Works: Fortierville, Que., Can.



WIRE NAILS

IN STEEL HOOP KEG.

WIRE BALE TIES

for baling hay and many other things.

FENCE and POULTRY NETTING STAPLES

WIRE

Bright, annealed, coppered stove pipe, liquor finished, square, etc.

The Laidlaw Bale-Tie Company

LIMITED

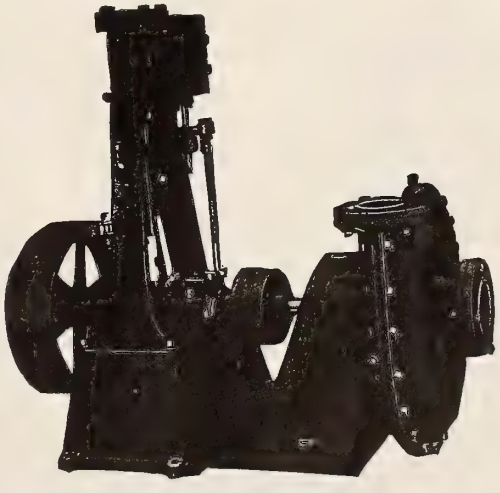
HAMILTON, ONTARIO

A. T. DIGGINS, Stair Bldg., Toronto, Ont.
H. E. O. BULL, Montreal, Que.
HARRY F. MOULDEN, Winnipeg, Man.

We do everything to sell our

PUMPS

but misrepresent them



Give us an opportunity to show you how well we can fit your needs.

The Smart-Turner Machine Co.

Limited

HAMILTON - CANADA

The Wm. Kennedy & Sons, Limited
Owen Sound, Ontario

Headquarters for Propeller Wheels, Ship Windlasses, Capstans, Winches, Steering Engines, Mill Gearing, Turbine Water Wheels, etc.

Iron and Steel Castings

GIVE CANADIAN SHOPS THE PREFERENCE.

JARDINE
Canadian Giant Power Hammer



There is nothing like it for rapid and accurate production of light to medium forgings.

No. 25 forges up to 2" stock.
1½ Horse Power drives it.
Weight 825 lbs.
Price $171.00.

No. 50 forges up to 2½" stock.
2½ Horse Power required for heavy work.
Weight 1,750 lbs.
Price $275.50.

A. B. JARDINE & CO., Limited
HESPELER - ONTARIO



Your Women Employees are particularly grateful

Every thoughtful girl knows the value of personal hygiene, neat appearance, a place of her own for her own effects.

It pleases employees to be shown such consideration as is implied when you furnish each with his or her own private steel locking compartment for clothes, lunch, tools, etc.--and pleased help is an asset these days.

Write for illustrated folders on "DENNISTEEL" -- Canada's leading line of Steel Lockers, Shelving, etc.

Halifax
Montreal
Ottawa
Toronto

THE DENNIS WIRE AND IRON WORKS CO. LIMITED
LONDON
CANADA

Hamilton
Winnipeg
Calgary
Vancouver

IMPERIAL

Lubricants

The Secret of Mechanical Efficiency

TIME will be served. Present dav competition and speeding-up of power plants and machinery will tell its inevitable tale unless the proper lubricants are used for each and every requirement.

The necessity for thorough, systematic lubrication is recognized by all successful manufacturers. Correct lubricants lengthen the life of machinery, increase its production capacity, reduce fuel consumption and repair bills. Poor lubricants are expensive at any price.

Correct lubrication makes your mechanical department just as much a dividend producer as any other department. It is not what you pay per gallon that counts but how much real lubrication you get per dollar.

Choose your lubricants from the Imperial line. Scientifically formulated, carefully graded, designed for specific purposes, their continued use will add much to the efficiency of your machinery, enabling it to withstand all demands.

Imperial Lubricants

For Manufacturing, Mining and Milling

CYLINDER OILS

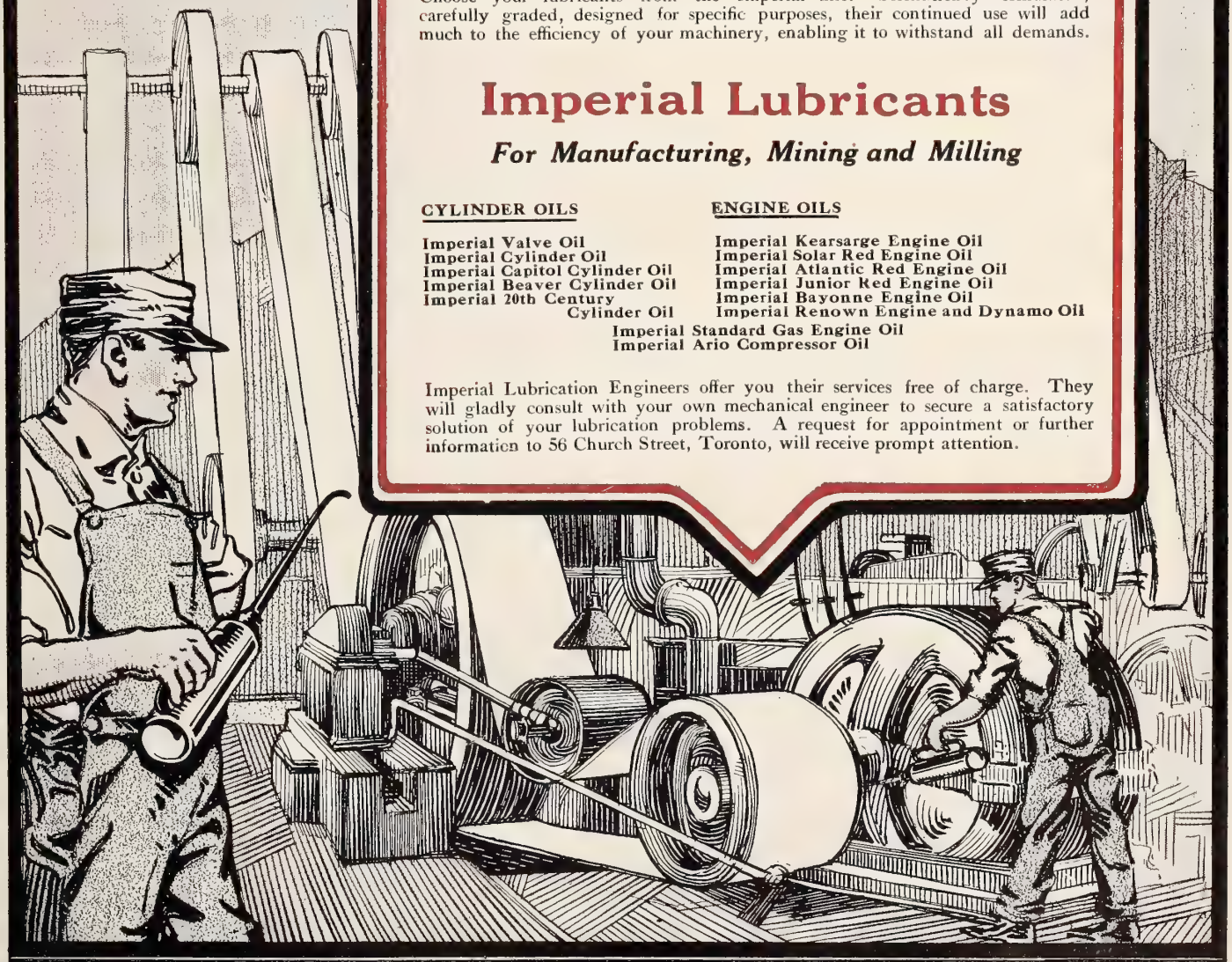
Imperial Valve Oil
Imperial Cylinder Oil
Imperial Capitol Cylinder Oil
Imperial Beaver Cylinder Oil
Imperial 20th Century Cylinder Oil

ENGINE OILS

Imperial Kearsarge Engine Oil
Imperial Solar Red Engine Oil
Imperial Atlantic Red Engine Oil
Imperial Junior Red Engine Oil
Imperial Bayonne Engine Oil
Imperial Renown Engine and Dynamo Oil

Imperial Standard Gas Engine Oil
Imperial Ario Compressor Oil

Imperial Lubrication Engineers offer you their services free of charge. They will gladly consult with your own mechanical engineer to secure a satisfactory solution of your lubrication problems. A request for appointment or further information to 56 Church Street, Toronto, will receive prompt attention.



IMPERIAL OIL LIMITED

Power · Heat · Light · Lubrication

BRANCHES IN ALL CITIES



Canadian Carbide

Made in Canada

SOLD THE WORLD OVER

Second to None in

QUALITY, GAS YIELD AND PACKAGE

Works:
St. Catharines, Ont.
Shawinigan Falls Que.

MANUFACTURED BY

Canada Carbide Company, Limited
MONTREAL - CANADA

Patterns of All Kinds



Castings of Iron and Brass

Offices and Works: Commercial St., Levis, P.Q., Canada

LAUZON ENGINEERING LIMITED, LEVIS, P.Q., CANADA (Opposite Quebec)

Builders of Land and Marine Engines and Boilers.
BRASS AND IRON FOUNDERS.

MECHANICAL REPAIRS OF ALL KINDS.
ENGINEERS AND CONTRACTORS.

Head Office and Plant: LEVIS, P.Q., CANADA

Building of Marine Boilers and Engines; also Installation of same on board ship our specialty.

Our shops formerly known as The Carrier-Laine Shops are at present the best equipped in the Province of Quebec for this class of work. Our Shipping facilities are unexcelled. We have a Deep-Water Wharf adjacent to our plant, and our yard sidings are connected with three railways—Canadian Government Railways, the Grand Trunk Railway, and the Quebec Central Railway. We make patterns of all kinds, and Castings of Iron and Brass.



Fairbanks Dial Scales

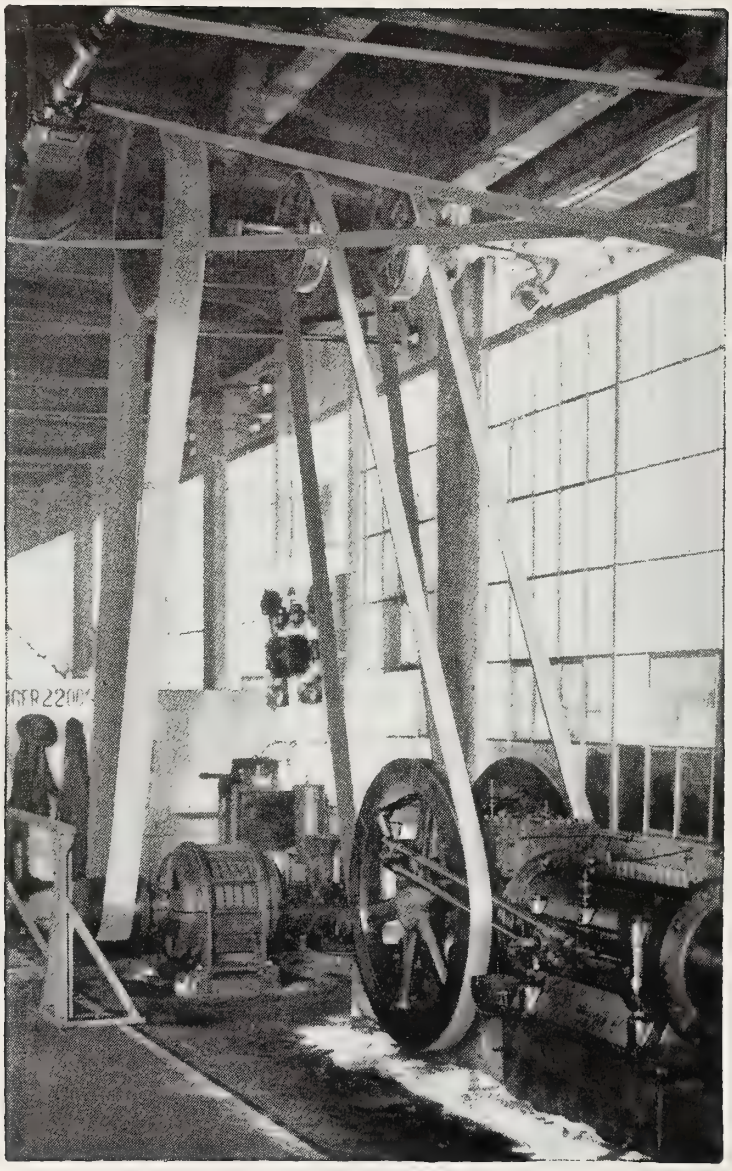
Direct Reading, Gross or Net
Full Capacity
No Loose Weights
No Calculations



The Canadian Fairbanks-Morse Co., Limited

"Canada's Departmental House for Mechanical Goods"

Halifax, St. John, Quebec, Montreal, Ottawa, Toronto, Hamilton, Windsor, Winnipeg
Saskatoon, Calgary, Vancouver, Victoria



Trussed Concrete Steel Company, Limited
Walkerville, Ont.

The Trussed Concrete Steel Co., Limited, of Walkerville, Ontario, is one of the foremost reinforced concrete concerns in Canada, as well as the largest Canadian manufacturers of steel sash and steel casement windows. Their opinion of Goodyear Extra Power Belting is pithily expressed in this letter from Mr. S. Farrell, purchasing agent.

"We have been users of different types of belts for quite some time, but we have no belt which will stand wear as long as the Goodyear Extra Power Belting which we purchased from you some time ago. The photograph shows your 'Extra Power' belt in use on an air compressor. It has been in use on same for some time and is still as good as new, while other belts previously used lasted only two weeks. We are gladly replacing all our belts with Extra Power."

GOODYEAR
MADE IN CANADA

Power Costs Money—Conserve It

Goodyear Extra Power Belting costs you less because of longer service— and saves enough power to pay for itself

Industry wastes a great sum of money through inefficient transmission of power.

Belts slip—pulleys are out of alignment—bearings worn-belts too heavy or too light. And yet superintendents and managers wonder why production slows up—why costs mount.

To-day thousands of Canadian industrials have reduced their power-waste measurably through the correct application by Goodyear men of Goodyear Extra Power Belts to their drives.

Goodyear Extra Power Belts have increased power transmission in many cases to a remarkable degree.

They have provided steady, uninterrupted operation of vital machinery.

They have given long, low-cost service.

Letters on our files vouch in cold figures and warm praise for the results obtained from Goodyear Extra Power Belts.

A Goodyear man will call on you at any time you say—without obligation to you. He will record the size of pulleys, horsepower transmitted, speed, length of drive, conditions of work. And when our recommendation comes to you, it will bear the stamp of engineering ability. Phone, write or wire the nearest branch.

The Goodyear Tire & Rubber Co. of Canada, Limited

Halifax, St. John, Quebec, Montreal, Ottawa, Toronto, Hamilton, London
Winnipeg, Regina, Calgary, Edmonton, Vancouver

EXTRA POWER BELTING



Salt Plant, Windsor, Ont.

MADE IN CANADA

Two sound reasons for buying salt and chemical products—Made in Canada—are

First—You can obtain products which are unrivalled for quality, strength or purity.

Second—Your money stays in Canada and helps to promote general prosperity.

WINDSOR SALT REGAL SALT
CAUSTIC SODA
CHLORIDE OF LIME and
BLEACHING POWDER
are all made by Canadian workmen

The Canadian Salt Co., Limited
WINDSOR, ONTARIO



Chemical Plant, Sandwich, Ont.

Castor Oil

Cocoanut Oils

English Degras

We are direct importers of vegetable oils. Can make immediate delivery of Cocoanut and Castor Oils, English Degras and English Linseed Soap.

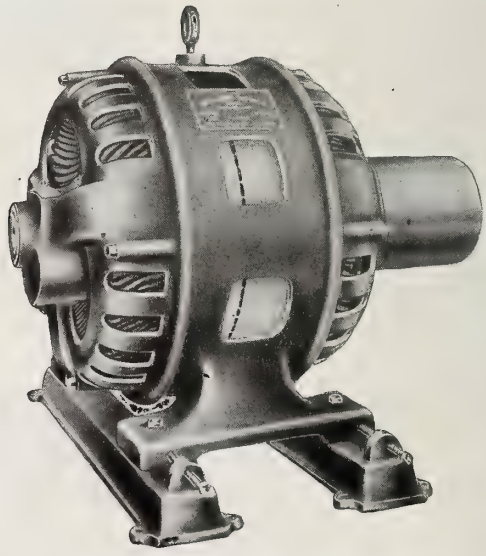
DOMINION OIL COMPANY
LIMITED
Royal Bank Building
HAMILTON - - ONTARIO

Write for Prices
on
SINGLE PHASE MOTORS

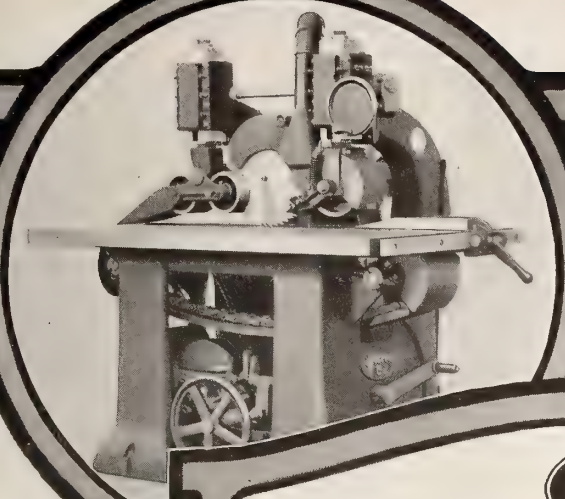
REPULSION and SPLITPHASE Types

Toronto and Hamilton Electric Co. Limited
99-103 McNab St. N.
Hamilton, Ont.

Jones & Moore Electric Co. Limited
294-300 Adelaide St. West - TORONTO



ONTARIO REPRESENTATIVES FOR
CENTURY ELECTRIC MOTORS
We make Alternating and D. C. Motors and Generators and
REPAIR ALL KINDS OF ELECTRICAL MACHINERY



"The Invariable Choice of the Man Who Knows"

Yates

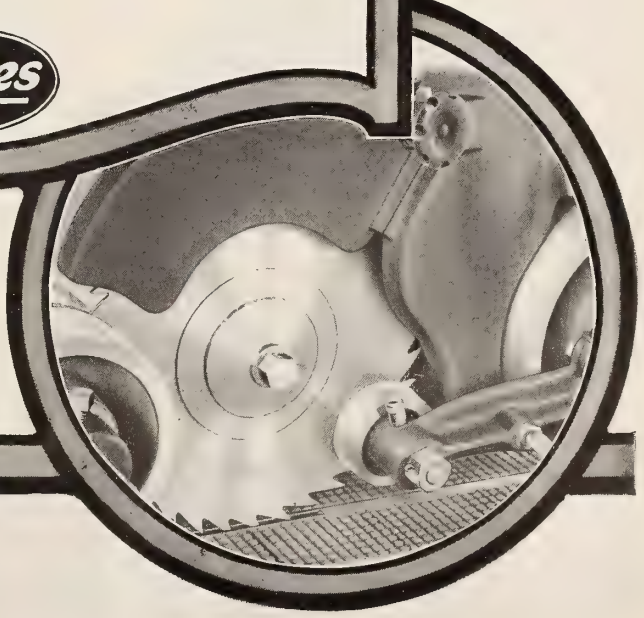
Type G-2 Edging and Ripping Saw

The Yates Type G-2 is the peer of all straight line edging and ripping saws because durability and efficiency are combined to such a degree that it will do better work for a longer period of time than any other machine of its class.

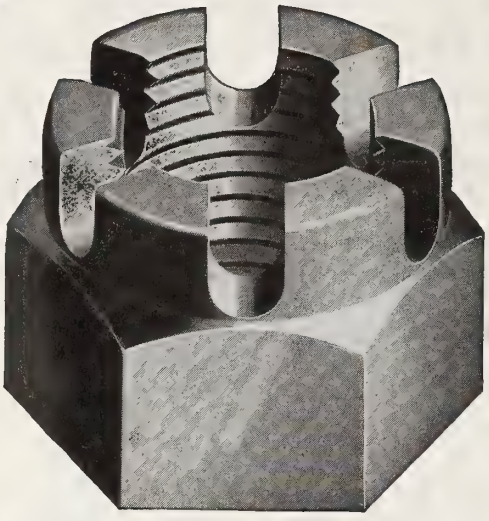
A recently-patented safety device, shown in section below, positively prevents splinters from being thrown back toward the operator.

Send for our illustrated circular on this machine. It contains eight pages of valuable matter for the mill man.

Yates



P. B. Yates Machine Company Ltd.
HAMILTON. ONT. CANADA
U.S. Plant—Beloit, Wis.



Castellated Nuts

Cap and Set Screws

PLAIN NUTS IN STOCK



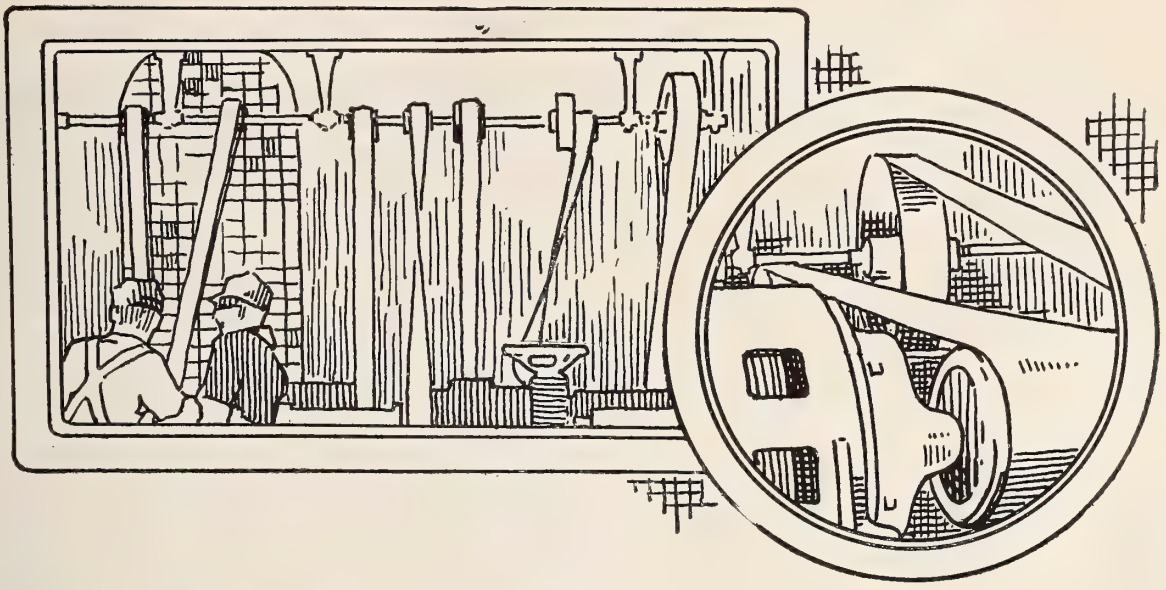
Standard sizes and threads

Special screw machine work made to specifications from Iron, Steel and Brass Bars in sizes up to 2¼" and 10½" long.

Quotations on your samples or blueprints.

The National Acme Company

De Courcelles and G. T. R. Montreal, P.Q.



Low Up-Keep Cost of Dominion Friction Surface Belting

Cost of maintaining equipment in the average plant is seemingly so small when compared with other costs that it is seldom considered seriously, but when totalled at the end of five years, represents a far greater expense than actual necessity demands.

Maintenance of belting is in itself an important item, because each repair means idle employees, idle machines and less production, the total cost of which is often greater than you would pay for better belting.

Dominion Friction Surface Belting is built for "service first" that its long, continuous performance may eliminate the necessity for repairs and replacements.

But it gives an added service in conserving power—the rubber that goes into it is a special friction compound that prevents practically all slipping on the pulleys even under quick load changes.

Our belting experts are ready to help lower your maintenance costs on belting and can suggest changes that will lower your production costs.

A phone, wire or letter to our nearest service branch, places at your disposal, without obligation or charge, not only their services but the entire facilities of the oldest and largest rubber organization in Canada.

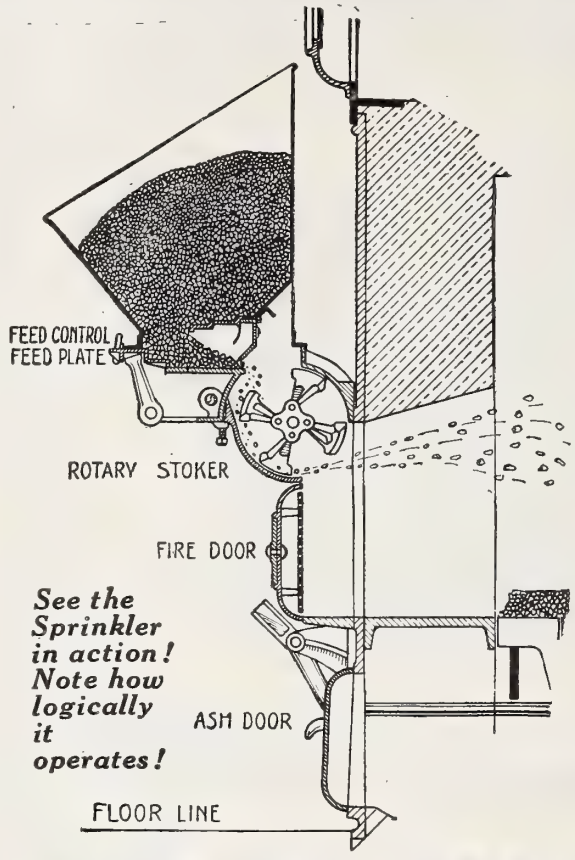
CANADIAN CONSOLIDATED RUBBER CO. LIMITED
DOMINION RUBBER SYSTEM
AND ASSOCIATED COMPANIES

Services Branches

Halifax	London	Saskatoon
St. John	Kitchener	Edmonton
Quebec	North Bay	Calgary
Montreal	Fort William	Lethbridge
Ottawa	Winnipeg	Vancouver
Toronto	Brandon	Victoria
Hamilton	Regina	

Makers of Dominion Hose, Packing and Industrial Rubber Goods and Dominion Tires, the GOOD Tires for every purpose

30



THE GALT FOUNDRY CO., Limited

OFFICE AND WORKS:

Galt - - Ontario

THE GALT SPRINKLER STOKERS

For Smokeless and Economical Combustion and Utilizing Low-Grade Fuels.

For Power and Heating Boilers, Annealing Furnaces and other Installations.

Are installed in many of Canada's largest plants and are giving satisfactory results in economy of fuel and operating costs.

Can be installed with any type, size and make of boiler.

Can be quickly installed in existing plants with only minor changes in setting.

Will burn any kind of fuel, from anthracite dust to two and a half inch lump.

Maintain a fuel bed of uniform thickness over entire grate surface.

Furnace can be hand fired if necessary without interfering with Stoker.

Simple in construction----maintenance cost very low.

Our combustion engineers are at your service. Ask for Catalogue

We also manufacture the "McNAUGHTON" SECTIONAL ROCKING GRATE BAR and other Shaking Grate Bars



INDEX TO DISPLAY ADVERTISEMENTS

Adams Cellboard Co. 162
Algoma Steel Corporation, Ltd. 12
Andrews, H. V. 129
Armstrong, Whitworth Co. of Canada, Ltd. 139
Atkins E. C., & Co. 115
Ault & Wiborg 27

Banfield, W. H., & Sons 10
Bank of Montreal 92
Barber-Ellis, Ltd. 100
Barrett Co., Ltd. 46
Bathurst Lumber Co. 113
Beatty, M., & Sons, Ltd. 116
Bennett & Wright Co., Ltd. 143
Bernard Industrial Co., The A. 31
Bertram, John, & Sons, Ltd. 5
Boechk Co., Ltd., The 103
Boiler Inspection & Insurance Co. 150
Booth-Coulter Copper & Brass Co., Ltd., The 117
Bradstreets 94
British American Oil Co., Ltd..Inside front cover
Brown Bros., Ltd. 94
Brown Corporation 150
Brown's Copper & Brass Rolling Mills... 20
Burlington Steel Co., Ltd. 141
Butterfield & Co. 146

Canada Carbide Co., Ltd. 34
Canada Foundries & Forging Co. 116
Canada Machinery Corporation 29
Canada Metal Co., Ltd. 139
Canada Wire & Iron Goods Co. 115
Canadian Appraisal Co. 106
Canadian Bank of Commerce 93
Canadian Blower & Forge Co. 144
Canadian Bridge Co., Ltd. 143
Canadian Carbonate Co., Ltd. 110
Canadian Chicago Bridge & Iron Co., Ltd. 150
Canadian Collapsible Tube Co. 126
Canadian Consolidated Rubber, Ltd. ....
Outside back cover and 41
Canadian Crocker-Wheeler Co., Ltd. 3
Canadian Drawn Steel Co., Ltd. 143
Canadian Fairbanks-Morse Co. 35
Canadian Furnace Co. 18
Canadian General Electric Co. 21
Canadian General Fire Extinguisher Co... 107
Canadian Hart Wheels, Ltd. 26
Canadian Industrial Alcohol Co., Ltd. ... 121
Canadian Ingersoll Rand Co. 14
Canadian Link Belt Co. 104
Canadian Mathews Gravity Carrier Co.... 142
Canadian National Railway 151
Canadian Oil Cos. 124
Canadian Pacific Railway 149
Canadian Pulp & Paper Association 96
Canadian Rumely Co. 131
Canadian Salt Co., Ltd. 38
Canadian Steel Foundries 127
Canadian Tube & Iron Co., Ltd. 141
Canadian Westinghouse Co., Ltd. 44
Caron Bros. 112
Chapman Double Ball Bearing Company of
Canada, Ltd. 123
Clarke, A. R., & Co., Ltd. 133
Conduits Co., Ltd. .....Inside back cover
Consolidated Mining & Smelting Co. of
Canada, Ltd. 2
Clyde Motor Truck Co. 17

Dart Union Co., Ltd. 1
Delaney & Pettit, Ltd. 99
Deloro Smelting & Refining Co. 6
Dennis Wire & Iron Goods Co. 32
Dodge Mfg. Co. 13
Dominion Abrasive Wheel Co., Ltd. 134
Dominion Bridge Co., Ltd. 137
Dominion Copper Products Co. 123
Dominion Forge & Stamping Co.. 136
Dominion Foundries & Steel, Ltd. 128
Dominion Oil Co. 38
Dominion Tar & Chemical Co., Ltd. 139
Dominion Wire Rope Co. 143
Doon Twines, Ltd. 145
Dunham, C. A., Co. 3
Dunlop Tire & Rubber Goods Co., Ltd.... 83
Dupont Fabrikoid Co. 134
Dominion Belting Co. 111
Dominion Sheet Metal Co. 83

Economy Fuse & Mfg. Co. 28
Eddy, E. B., & Co., The 125
Elder, Dempster & Co., Ltd. 148
Electric Steel & Metal Co., Ltd. 129
Engineering & Machine Works 122
Eureka Mineral Wool & Asbestos Co..... 129

Foley & Co., Jas. W. 118
Foundation Co., Ltd. 102

Galt Foundry Co. 42
Galt Knife Co. .....Inside front cover
Galt Malleable Iron Co., Ltd. 126
Gardner, R., & Sons, Ltd. 126
Garlock Packing Co. 117
Gibbons, J. J., Ltd. .....Outside front cover
Goderich Organ Co., Ltd. 94
Goldie & McCulloch, Ltd., The 19
Goodhue, J. L., & Co., Ltd. 132
Goodyear Tire 36-37
Grace & Co., Ltd. 1
Grasselli Chemical Co., Ltd., The 135
Gray, J. V., Construction Co. 129
Greening, The B., Wire Co., Ltd. 30
Gutta Percha & Rubber Manufacturing Co.
of Toronto, Ltd. .....Inside back cover

Hamilton Bridge Works, Ltd. 115
Hamilton Gear & Machine Co. 6
Hamilton Motor Works 116
Hay Knife Co., Ltd., The Peter 162
Hinde & Dauch Paper Co. of Canada, Ltd.,
The 135
Howard Smith Paper Mills, Ltd. 98
Hoyt Metal Co. 111
Hydraulic Machinery Co. 9

Imperial Bank of Canada 92
Imperial Oil Co., Ltd. 33
Inglis, John, Co., Ltd. 23
International Business Machines, Ltd.... 84-85

Jardine, A. B., & Co. 32
Jenkins Bros., Ltd. 11
Jones, J. L., Engraving Co., Ltd. 138
Jones & Moore Electric Co., Ltd. 38
Jones Underfeed Stoker Co. 10

Kennedy, Wm., & Sons, Co. 32
Kerr Engine Co., Ltd. 122

Laidlaw Bale-Tie Co., Ltd. 31
Langmuir Mfg. Co. 30
Lauzon Engineering, Ltd. 34
Leonard, E., & Sons 16
Leslie, A. C., Co. .....Inside back cover

Macdonald Manufacturing Co., Ltd. 136
MacKinnon Industries, Ltd. 108
MacKinnon Steel Co., Ltd. 142
Macdonald, W. C., Reg. 124
Maritime Bridge Co. 131
McDonald & Wilson, Ltd. 119
Massey-Harris Co., Ltd. 8
Maples, Ltd. 118
McClary Manufacturing Co. 114
McGregor & McIntyre, Ltd. 120
McLaren, D. K., Ltd. 132
McLaren, J. C., Belting Co., Ltd. 133
Meadows, The G. B., Iron & Brass Works
Co., Ltd. 7
Merchants Bank 95
Milton Hersey Co. 119
Montreal Cottons, Ltd. 145
Montreal Locomotive Works, Ltd. 128
Morris, The Herbert, Crane & Hoist Co.,
Ltd. 8
Morrow, John, Screw & Nut Co., Ltd..... 125

National Acme Mfg. Co., The 40
New Zealand Shipping Co., Ltd., The.... 148
Nichols Chemical Co., Ltd., The 131
Nicholson File Co. 140
Northern Aluminum Co., Ltd. 131
Northern Crane Works, Ltd. 16
Northern Electric Co., Ltd. 31
Nova Scotia Steel & Coal Co., Ltd. 26

Office Specialty Mfg. Co. 90
Ontario Government Notices 152
Ontario Wind Engine & Pump Co., Ltd... 147
Ormsby, A. B., Co., Ltd. 15
Otterville Mfg. Co., Ltd. 131

Pedlar People 22
Penmans, Ltd. 145
Perrin, Wm. R., Ltd. 146
Pratt & Whitney Co. 4
Prest-O-Lite Co. 28
Purdy, Mansell, Ltd. 147

Richards-Wilcox Canadian Co., Ltd. 2
Ritchie & Ramsay Paper Co. 99
Ridout & Maybee 142
Riordan Sales Co. 94
Rolland Paper Co., Ltd., The 97
Royal Bank of Canada 93

Scythes & Co. 130
Shipman, Harold C., & Co. 86-87-88
Shurley & Derrett, Ltd. 130
Smart-Turner Machine Co. 31
Standard Chemical, Iron & Lumber Co... 137
Standard Underground Cable Co. 26
Stanley Steel Co., Ltd. 16
Steel Co. of Canada, Ltd., The 105
Steel Trough & Machine Co., Ltd. 150

Tallman Brass & Metal Co., Ltd. 127
Thorne, Mulholland, Howson & McPherson 94
Thompson & Norris Co. of Canada, Ltd.
Outside back cover
Toronto Hydro-Electric System 147
Toronto Iron Works .....Inside front cover
Toronto & Hamilton Electric Co. 38
Trades & Labor Branch 152
Trussed Concrete Steel Co. of Canada, Ltd. 24-25

Union Bank of Canada 95
Union Drawn Steel Co., Ltd., The 141

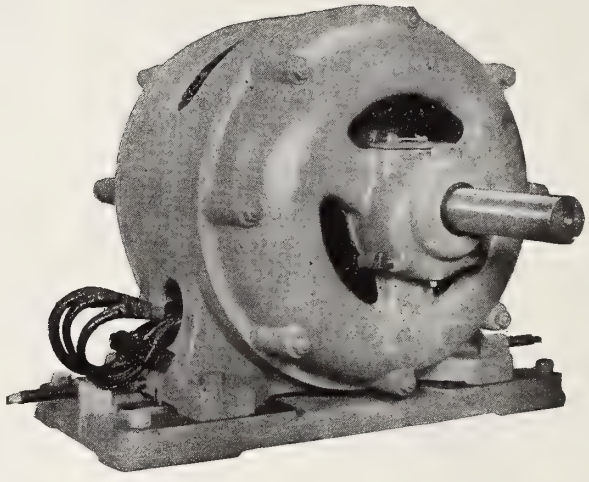
Waterous Engine Works Co. 120
Wells & Gray 109
Wilson, C. P., & Co. 82

Yates, P. B. Machine Co., Ltd. 39

For Buyers' Guide see page 153

Westinghouse

Type HS Induction Motors



There are no hot spots in Type HS Motors. A uniform low operating temperature is maintained by free circulation of air currents.

The strength and rigidity necessary to support the core and brackets and maintain the air-gap clearances, are afforded by the sturdy cast-iron frames.

Owners of Westinghouse Apparatus are invited to make use of our Service Department Repair Shops, where work will receive prompt and efficient attention. Repair shops are located at:

TORONTO	MONTREAL	CALGARY	WINNIPEG
16 Temperance Street	10 St. Sophie Lane	328 9th Avenue, W.	158 Portage Avenue E.

Canadian Westinghouse Company, Limited,
Hamilton, Ontario

TORONTO	MONTREAL	OTTAWA	HALIFAX	FORT WILLIAM
Bank of Hamilton Bldg.	285 Beaver Hall Hill	Ahearn & Soper, Ltd.	105 Hollis St.	Cuthbertson Block

WINNIPEG	EDMONTON	CALGARY	VANCOUVER
158 Portage Ave. E.	211 McLeod Bldg.	Canada Life Bldg.	Bank of Ottawa Bldg.

CANADIAN WESTINGHOUSE

INDUSTRIAL CANADA

Issued monthly as the official publication of the Canadian Manufacturers Association (Incorporated), and devoted to the advancement of the industrial and commercial prosperity of Canada.

PRESIDENT OF THE ASSOCIATION
T. P. Howard, Phoenix Bridge & Iron Works, Ltd. Montreal

VICE-PRESIDENTS
J. S. McKinnon, S. F. McKinnon & Co., Limited, Toronto
W. S. Fisher, Enterprise Foundry Co. ..... St. John, N.B.

PUBLISHING COMMITTEE
J.F. MacKay (Chairman), Willys-Overland Limited, Toronto
W. J. Bulman, Bulman Bros., Limited ..... Winnipeg
F. P. Megan, Wm. Davies Co., Limited ..... Toronto
I. H. Weldon, Provincial Paper Mills Co., Limited, Toronto
J. F. M. Stewart, Pointe Anne Quarries, Limited ... Toronto
C. Howard Smith, Howard Smith Paper Mills, Ltd., Montreal

INDUSTRIAL CANADA DEPARTMENT
Advertising Manager ..... D. B. Gillies
Editor ..... W. A. Craick

OTTAWA OFFICE (217 Booth Building)
Representative..... G. M. Murray
Assistant..... E. Blake Robertson

C.M.A. OFFICIALS
Head Office, Toronto
General Manager.....J. E. Walsh
General Secretary.....J. T. Stirrett
Manager, Transportation Department.....J. E. Walsh
Assistant Manager, Transportation Department..S. B. Brown
Managers, Insurance Department..Willis, Faber & Co., Limited
Manager, Tariff Department.....J. R. K. Bristol
Manager, Commercial Intelligence Department..Alex. Marshall
Secretary, Legal Department.....H. Macdonald
Manager, Trade Sections Department.....J. M. McIntosh
Office Manager and Accountant.....J. Winfield

SECRETARIES OF DIVISIONS
Maritime ..... H. R. Thompson, Box 93, Amherst, N.S.
Quebec, W. P. Hughes, 113 Board of Trade Bldg., Montreal
Ontario H. Macdonald, 1404 Bk. of Hamilton Bldg., Toronto
Prairie, G. E. Carpenter, 503 Northern Crown Bank Bldg., Winnipeg, Man.
Pacific, H. Dalton, 705 Board of Trade Bldg., Vancouver, B.C.

CONTENTS OF THIS ISSUE

Editorial Comment 47
A Permanent Tariff Board—National Industrial Conference— Instability of Business Conditions in Canada—The Place of Middlemen.

News and Views of the Association 52
New Members for July—Alberta Industrial Congress—Additions to Committees—Resolutions Presented to the Government.

Canada's New Bankruptcy Act Explained .....H. Macdonald 56
The more important features outlined—Certain provisions new to some of the provinces—Facilities provided.

Activities of the Reconstruction Association..... Sir John Willison 58
Work being extended to British Columbia—What the Western Committee has accomplished—Investigation department reports.

Plans of Coming British Industries Fairs..... 60
To be held in London, Birmingham and Glasgow—Not exhibitions, but trades fairs—Admission restricted to bona fide buyers.

Well-rounded Scheme of Industrial Benefits.....J. R. Hamilton 63
Plan of the Dominion Chain Co., Limited—Employees' society formed —Every worker in office and factory eligible for membership.

State of the American Woolen Industry.....E. M. M. 66
Comprehensive Survey of the Industry, not only of the United States, but of the world—Extent of wool supply.

Music on the Payroll—An Aid to Efficiency.....J. A. Fullerton 72
All human beings bestow on their work the reactions from the influences to which they are daily subjected—How music helps in this.

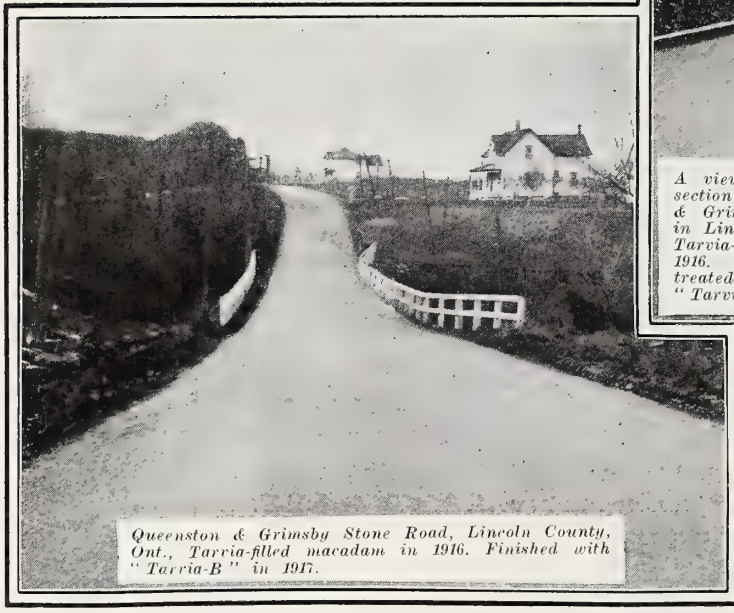
Transportation Items 75
Recent Trade Enquiries 77
Among the Industries 78
Electric Power Available 80
Office and Finance 91
Good Things from Other Magazines 101

SUBSCRIPTION
Two Dollars per Year Single Copies 20 cents
Advertising Rates made known on application

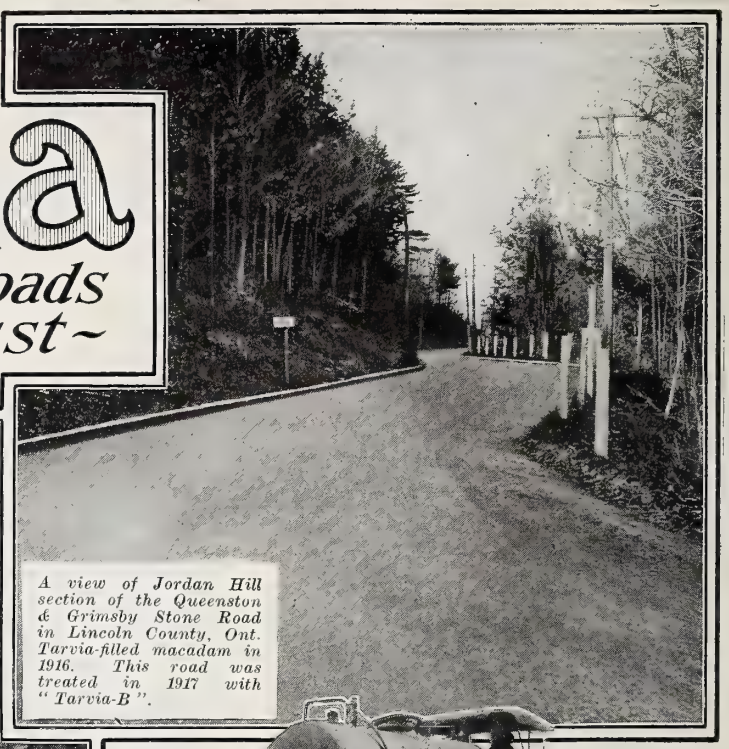
OFFICES
1404 BANK OF HAMILTON BUILDING
TORONTO

Tarvia

Preserves Roads
Prevents Dust~



Queenston & Grimsby Stone Road, Lincoln County, Ont., Tarvia-filled macadam in 1916. Finished with "Tarvia-B" in 1917.



A view of Jordan Hill section of the Queenston & Grimsby Stone Road in Lincoln County, Ont. Tarvia-filled macadam in 1916. This road was treated in 1917 with "Tarvia-B".



Auto-Tank Sprayer distributing Tarvia

County of Lincoln (Ont.) adopts Tarvia for all main highways---

The following letter from Mr. Lewis H. Collard tells the story of the experience of the County of Lincoln, Ont., with Tarvia roads. It proves again that Tarvia solves the good roads problem satisfactorily and economically, and that Tarvia highways will stand up under the heaviest kind of traffic.

Mr. Collard writes:

"I feel that if I did not give you an unsolicited testimonial of my experience with your Tarvia products, I would not be doing my duty to my fellow municipal officers in the Dominion of Canada, who may have under their consideration the building of some more permanent highways than the old water-bound macadam type.

The County of Lincoln two years ago built about two miles of Tarvia road on its main highway from the village of Jordan, running west, better known as the Queenston & Grimsby stone road, which road carries the traffic from Canada to the Niagara Frontier and from the United States to Hamilton, Toronto and farther east, and therefore is one of the heaviest travelled roads in the Province of Ontario, both in tourist and local traffic, having as high as one thousand automobiles and trucks passing over it in a day, and I can only say, after two years of this kind of traffic the road is in first class condition to-day and has pleased the County of Lincoln so much that they intend to build their main highways in the County road system of the same type." (Signed) LEWIS H. COLLARD,
Chairman, Lincoln County Roads.

Nothing more need be said, except to remind you again that no matter what your road problem may be---whether you require a road binder, a dust preventive, a road preserver, or a patching material---there is a grade of Tarvia for the purpose.

Write for further information and illustrated booklets

The Barrett Company LIMITED

MONTREAL
WINNIPEG ST. JOHN, N.B. HALIFAX, N.S. TORONTO SYDNEY, N.S. VANCOUVER

INDUSTRIAL CANADA

ISSUED BY

The CANADIAN MANUFACTURERS ASSOCIATION.

INCORPORATED.

Vol. XX. TORONTO, AUGUST, 1919 No. 4

Editorial Comment

The Farmers' Political Party.

THE formation of "The Farmers Political Party," following the recent Farmers' Convention at Calgary, is reported in the *Manitoba Free Press*. This Party is organized through, but is distinct from the farmers' organizations in Western Canada. The new Party has adopted the farmers' platform drafted by the Canadian Council of Agriculture. The object of the Party appears to be entirely political and will head an agrarian movement in the Western Provinces by selected candidates of its own choosing for Parliament and the Legislatures.

The Installation of Automatic Sprinklers

IT has been clearly demonstrated that the installation of automatic sprinklers is an effective means of fire prevention, and statistics are available to show that the cost of the installation of sprinklers can be saved in a varying number of years through reduction of insurance premiums. Several proposals have been made to secure the enactment of legislation making the installation of automatic sprinklers compulsory in certain classes of buildings. We understand, however, that the Government's Insurance Department has decided to inaugurate a campaign of education before recommending such a drastic step as compulsory installation. By applying to the Superintendent of Insurance, Ottawa, manufacturers can secure an inspection of their plant by an expert on automatic sprinklers. The expert will state the cost of installation, the probable reduction of insurance premium resulting from the installation, and the type of sprinklers which are best suited for the plant in question.

Membership

THERE should be no manufacturers in Canada who are not members of this Association. It should be the business of members to see that non-members are persuaded to join. The cost of fighting the Association's battles is steadily increasing because at the present time manufacturers seem to have been selected as the central object of attack from the various classes of the population.

Increasing demands for service are being made upon the Association's Transportation, Tariff, Legal, Insurance, Commercial Intelligence and other technical departments.

These expenses are borne by the members in the shape of fees and the fewer the members the higher will be the fees. Every new member who comes in helps to bear the burden; and these non-members should be in, because they as well as the members benefit from the Association's activities.

A great effort will be made during the coming year to turn the non-members into members. A campaign will be started in each of the five Divisions of the Association. The President has made a special appeal that each member of this Association should make an effort to secure at least one new member.

The President hopes that each member will accept an individual responsibility during the coming year in regard to increasing the membership of the Association.

A Permanent Tariff Board

THE resolution passed at the Annual Meeting of this Association, asking the Government to create a permanent Tariff Board, which would revise the tariff from time to time on a scientific basis as necessity arose, is receiving considerable support from organizations of labor, agriculture and business. The suggestion that the tariff, being highly technical, should be a subject of constant study by men who represent no particular class of the population, but whose sole aim is to adapt the tariff to the needs of the country, is finding widespread favor. It is not suggested that this Board should have legislative power. It would only have powers of investigation and recommendation, similar to those possessed and exercised by the Tariff Commission of the United States. The creation of such a Board should almost eliminate the constant argument concerning tariff matters, which is waged between manufacturers on the one hand and certain farmers' organizations on the other. For several years this Association has tried to establish better relations with the grain growers' Associations of the West, and frequent conferences have been held between the business and agricultural interests of the country. The tariff should not be treated as an abstract theory, but as a business proposition. Practically all the civilized countries of the world have a

tariff of some sort, which serves either to collect revenue or to protect home industry, or both. It would be impossible to set up a standard tariff for all countries. Each country's tariff must be shaped to serve the particular needs of that country.

In Canada the manufacturers understand that they must produce good articles, pay fair wages, and sell at fair prices, if they are to maintain a good standing in the home market. The farmers are one group of business men, the manufacturers are another group. Both groups are equally interested in securing national prosperity. One of the chief requisites for national prosperity is to secure national stability, and this cannot be maintained for any period of time when there are frequent periods of uncertainty in regard to what sort of a tariff will be in effect. Canadians of all classes want a fair tariff, which will suit the great majority of the people. They want a stable tariff, which will keep business steady, and allow business men to make their plans several years ahead. They want, also, to get rid of the endless discussion and vague controversies which have been raging about the Canadian tariff for the last fifty years. They appear to believe that a Tariff Board would do much to attain these desirable results.

National Industrial Conference

ARRANGEMENTS are being made by the Minister of Labor to hold a National Industrial Conference in Ottawa during the week beginning September 11th next. Sir Robert Borden will act as Chairman. Delegates from Labor organizations and from various classes of employers are being invited to attend.

The stated object for calling the conference is to attempt to arrive at an understanding on certain questions which have been and are the subject of controversy between employers and employees. The Minister of Labor hopes that the conference will be instrumental in removing some of the causes of present industrial unrest in Canada, and will bring about a larger measure of co-operation in industry.

This Association has been entrusted with the task of selecting the delegates who will represent the manufacturing interests. Preparations, for the conference and the selection of delegates are in the hands of the Industrial Relations Committee, which was created at the last Annual Meeting.

There is no doubt that there should be more co-operation in industry. It should not be forgotten, however, that co-operation brings with it responsibility. If the conference is conducted in the true spirit of compromise, something should be accomplished. If, however, it is being made the means of forcing extravagant demands upon manufacturers to the attention of the public, little real benefit will be derived from it. The public, during the last six months, have realized very keenly that they are interested in industrial disputes, because they must pay the cost, indirectly, to a large extent. If the attitude of Labor is all take and no give, and if demands rising out of this attitude are met, it simply means that the cost of living will be higher.

The conference could do nothing better than concentrate on the problem of increasing the production of the country, because only vastly increased production will bring down the high cost of living. Prices are high now chiefly because there is a world-wide famine in nearly all articles which are consumed. These articles are dear because they are scarce and they will continue to be dear until they become plentiful again through an increase in production.

The Instability of Business Conditions in Canada

CANADIAN manufacturers have to struggle not only against the natural obstacles which stand in the way of restoring business to normal conditions, but they also have to contend against unnecessary handicaps. From November of last year until May of this year they were in a state of uncertainty as to what tariff changes would be announced in the Budget. At the same time, certain labor organizations, through their radical leaders, seemed determined to enforce demands intended to limit, and in some cases, to stop production.

Investigations and restrictive laws produce as their chief result confusion in the business world without visible relief to the consumers.

The manufacturers of this country did a great deal to solve the tremendous threat of unemployment which hung over this country when the armistice was signed. If business were allowed to take its natural course, under the law of supply and demand, the country would return much more quickly to normal conditions and the cost of living would decline.

Bolshevism or Trade Unions?

"BOLSHEVISM or trade unions, which?" is the title of a pamphlet published by Mr. Gustave Francq, the well-known Labor Leader, who is Managing Director of the *Labor World,* Montreal.

Mr. Francq has made a careful study of Bolshevism and quotes, among other documents which he has consulted, the report of Mr. David S. Francis, United States Ambassador to Russia, to the Senate at Washington, and also the British White Paper, compiled by the British Foreign Office and tabled in the House of Commons last April.

"The Bolshevist system is contrary to the development of democracy because it is nothing short of a dictatorship based on crime, injustice and inequality before the law," says Mr. Franq; "it is intolerance itself and has adopted for its motto: *Liberty in its widest form for a class but complete oppression for the others.*"

Mr. Francq reprints a number of opinions expressed on the subject of Bolshevism. Among these are the follow-

ing by Mr. Samuel Gompers, President of the American Federation of Labor:

"In theory Bolshevism is an impossibility. In fact, if it were put into operation, or could be put into operation, it would mean the decadence or perversion of the civilization of our time. To me the story of the desperate Samson who pulled the Temple down on his head, is an example of what is meant by Bolshevism. I am not willing that all of the genius of past ages should be flung to the wind. And I am not willing that the little service that I may have been able to render during the long years that I have attempted to improve conditions in a constructive way should be destroyed by maddened desperation. And so I may say to you that it is well for us to see now that our own house is kept in order."

Mr. Francq then contrasts the constructive work which is done by international trade unionism with the destructive tendencies of Bolshevism. Speaking of the international Trade Union movement, he says:

"It is opposed alike to Bolshevism amongst employers as well as employees. It speaks for labor and society in their real and best sense."

Mr. Francq has presented his case clearly, and reasonably, and the pamphlet will bear close study.

The Place of Middlemen

A DEFENCE of middlemen, more particularly the retail merchant, was delivered by Mr. E. M. Trowern, Secretary of the Retail Merchants' Association, before the Royal Commission on Industrial Relations. Mr. Trowern contended that distribution is as important as production, and that those engaged in distribution are as indispensable to a country as those concerned with production. Distributors justify their existence because they perform certain services for the community which the community cannot do without. He stated that the middlemen are being attacked by persons who do not understand the importance of the services rendered. "These persons," says Mr. Trowern, "advocate among other things the following:

1. The abolition of the middlemen.
2. Direct purchase and sale between producers and consumers.
3. Municipal trading in coal, wood, milk, and other articles of common use.
4. Public retail markets to enter into competition with tax-paying retail merchants, who carry vegetables all the year round, whereas consumers cannot buy vegetables in the market when the thermometer is below freezing point.
5. Without knowing the unsound commercial basis upon which so-called co-operative societies are established, they advocate their adoption.

"Retail merchants have been on earth for centuries, and they will be here for all time," prophesies Mr. Trowern. "You can devise no plan which will abolish them, as they are an important part of every locality."

There is no doubt that we must have distributors as well as producers, and it is impossible to decide which is the more important class.

Both wholesale and retail merchants perform a necessary and valuable service in the political economy of the country. If the community insists upon having the services which are furnished by wholesalers and retailers and other distributors, the community must be prepared to pay a fair return for such services. There is a great deal of loose talk about abolishing certain classes of the population. Artificial action secures very little result in such cases. The iron laws of supply and demand quickly eliminate an unnecessary class. Proposals to abolish all middlemen who operate between the producers and ultimate consumer are very attractive, but most of them fail when they have to explain how the services now rendered by these middlemen are to be supplied in their absence. The more highly civilized a country becomes, the more classes there are in the population, the more stages there will be between the producer of raw material and the ultimate consumer of the finished goods, and consequently the more middlemen. It must not be forgotten, moreover, that the great class of middlemen and their families form a very large percentage of the consumers, and are, therefore, buyers of the producers' goods.

It is necessary, however, to maintain the proper proportion between the classes. There should not be too many distributors in proportion to the number of producers. Moreover, if the profits of the producers are to be limited, it seems reasonable to assume that the profits of the distributors should be investigated also, and if necessary, limited as well.

British Labor Minister's Appeal.

SINCE the signing of the armistice the industrial community in the British Isles, and indirectly the whole population, have confronted a succession of crises, which threatened the whole social fabric, and menaced the commercial supremacy of the British Empire. The gravity of the situation caused Sir Robert S. Horne, Minister of Labor for Great Britain, to make the following statement:

"Any man who is unprepared to put forth an effort even greater than that he made during the war mocks the dead he professes to glorify. They died to preserve their country. If men are unwilling to exert all their power in peaceful production and honest toil, the country will be ruined as irretrievably as if the Hun had invaded it and spread his devastating hand over it.

"No class is free from criticism. Many manufacturers are profiteering at the expense of the community. Many workmen are refusing to give an adequate day's work for the service of the country. As a result of these two factors Britain is becoming impoverished. Unless there is a great awakening this nation, which has proved its courage and capacity for sacrifice, will go down to disaster through failure to use victory wisely.

"Far better in such a case would it have been to have been beaten on the field of battle and to have returned with a chastened spirit to retrieve our fortune by persistent toil. At the present time our production of almost all that is essential for the continuance of the country's success has reached a dangerously low level. The output of that prime necessity, coal, is imperilling every industry we possess.

"It is the duty of every right thinking citizen to be a missionary preaching the gospel that in work alone lies safety. It should be the pride of everyone to bear this banner in this new crusade."

Similar conditions prevail to a varying degree in other countries, but the situation is especially dangerous for Great Britain, a country which has built up its commercial supremacy on its merchant marine, its highly specialized manufacturing and its coal industry. If the

cost of production in these three services is doubled or trebled, it is difficult to see how Great Britain can continue to import the greater part of her raw material, manufacture in the British Isles, and send it out again as finished products to all parts of the world in the face of international competition.

British Industries Fairs, 1920

THE prospectus of the British Industries Fairs, 1920, has been published by the British Board of Trade. Three fairs, to be held in London, Birmingham and Glasgow, from February 23rd to March 5th, 1920, are included in the programme. The three fairs, although held in different cities, are in reality one fair. The London fair is directly organized by the Board of Trade, while the fairs in Birmingham and Glasgow are organized by the municipalities of the respective cities under the auspices and with the support of the Board. The three fairs will be held concurrently, each fair representing a specified group of industries, and no one industry will be permitted to exhibit at two fairs. The London fair will be held in the Crystal Palace, London. These fairs will be an object of special interest to Canadian manufacturers owing to the probable increase of trade between Canada and the United Kingdom.

A full description of the British Industries Fairs of 1920 appears elsewhere in this issue, and is reproduced from the Weekly Bulletin No. 801 of the Department of Trade and Commerce.

A Definition of Collective Bargaining

By G. E. CARPENTER
Secretary, Prairie Provinces Division, C.M.A.

PROBABLY nothing is of more immediate interest to our members than the agreement upon the vexed question of "Collective Bargaining" that was reached between the employers in the metal trades, a committee from the running trades of the railway men, and which was endorsed by the Minister of Labor, Senator Robertson. In order that our members generally may have a record of just what this agreement provided for, same is given below:

A series of statements defining the real status of "Collective Bargaining," as it relates to the Winnipeg strike, were issued June 16th, 1919, and are reprinted as a matter of historical record. The statements were made by the ironmasters engaged in the original dispute, the International Officers of the running trades, and the officials of the great transcontinental railway corporations at Winnipeg. The record, which was the basis of the subsequent settlement of the metal workers' dispute, is as follows:

Metal Employers Define Their Position

TO THE CITIZENS OF WINNIPEG: Winnipeg, June 16, 1919.

The undersigned learn that certain railroad employees have taken part in the sympathetic strike, using as justification for their act the claim that the metal trades employers have failed to properly recognize and concede the principle of collective bargaining to metal trade employees.

We believe that there is, and has been material misunderstanding in connection with our recognition of the principle of collective bargaining, and in an endeavor to once more place the position of the metal trades clearly before all interested, do make the following statement:

Privy Council Order No. 1743, passed in July, 1918, by the Dominion Cabinet, in part, provides as follows:

"2. That all employees have the right to organize in trade unions, and this right shall not be denied or interfered with in any manner whatsoever, and through their chosen representatives should be permitted and encouraged to negotiate with employers concerning working conditions, rates of pay, or other grievances."

The above quoted portion of the Federal Government's defined policy on this question we believe should be accepted by those interested, and our desire has been to recognize and concede its applicability to the operation of our respective plants.

We have endeavored on several occasions to place concretely in writing our intent and desire relative to the question of collective bargaining, but evidently we have failed to clearly outline our views and desires in that connection, and we, therefore, in the hope of clearing up entirely any misunderstanding on the part of our employees, and on the part of the general public, and the very much interested citizens of Winnipeg, we submit the following as our declared policy on the question of collective bargaining:

1. Employees shall not be discriminated against by employers or other employees on account of membership or nonmembership in any craft or organization.

2. The members of the various trade organizations employed in the undersigned metal trade shops shall have the right to present and negotiate schedules covering wages, hours and working conditions, with individual employers, or collectively with the employers of the metal trades.

3. The employees who are members of the various metal trade organizations in the contract shops (not including rail-

Suggestion to Manufacturers

Canadian manufacturers who are interested in seeing that home products get the preference in the domestic markets might well take example from the action of Messrs. Rous & Mann, Ltd., Toronto, who enclose the following exhortation in the pay envelopes of their employees:

GIVE THIS YOUR CONSIDERATION—IT AFFECTS EVERY ONE OF US

For every million dollars retained in Canada by a refusal to buy other than Canadian goods, a year's continuous employment can be given to at least 1,000 people.

No goods purchased abroad are cheap that take the place of our own labor and our own raw materials. Spend your money at home and help yourself and your country.

By supporting home industries you develop the home market, encourage export trade and reduce imports. Every dollar spent for goods produced by Canadian labor means better conditions for Canadian workers.

Build up the home market. The president of the Bank of Commerce says: "Every dollar's worth we buy abroad means that a dollar's worth of work has been diverted from a Canadian workman." Make your money support home industries.

DEMAND GOODS MADE IN CANADA

way shops) shall have the right to elect representatives from among the employees of the firm or firms involved.

4. After agreements have been reached and schedules signed, as by the above-mentioned method, grievances or differences that may arise shall be taken up as follows:

(*a*) All complaints and grievances to be adjusted, if possible, by the superintendent in charge.

(*b*) When adjustment cannot be made between the superintendent and the craft directly interested, the matter shall be taken up with the company by the committee representing the craft involved, and they shall endeavor to reach a mutual understanding.

(*c*) In the event an understanding cannot be reached by the company and the representatives of the craft or crafts involved, the committee representing all of the trade unions employed by the firm or firms concerned, will meet, and try to bring about an adjustment of such differences or grievances.

5. In case of failure on the part of said representatives to effect a satisfactory settlement of any schedule, negotiations or grievances with the firm or firms concerned, the duly accredited international officers of the metal trade organizations shall be called upon to assist in effecting a settlement.

6. During the period of negotiations, conducted as outlined above, there shall be no lockout on the part of the employers, or strike on the part of the employees concerned.

(Signed) Vulcan Iron Works,
Per E. G. Barrett.
(Signed) Manitoba Bridge & Iron Works,
Per H. B. Lyall.
(Signed) Dominion Bridge Co.,
Per N. W. Warren.

Satisfactory, Says Minister of Labor

Winnipeg, June 16, 1919.

I have been handed a copy of the declaration of policy issued to the public by the Vulcan Iron Works, the Manitoba Bridge & Iron Works, and the Dominion Bridge Company, respecting the recognition of the principle of collective bargaining in their several plants.

The policy outlined is a full and complete recognition of collective bargaining, as generally interpreted and applied, and is entirely in accord with the established practice on our Canadian railways. It should, in my opinion, be accepted as satisfactory to labor.

(Signed) G. D. Robertson,
Minister of Labor.

Identical With Railway Practice

Winnipeg, June 16, 1919.

The undersigned representatives of the train service organizations, being familiar with the method of collective bargaining as practised by the organizations we represent, endorse the policy of collective bargaining as outlined by the metal trade employers in their announcement of this date, being in principle and effect the same as that enjoyed by these organizations.

(Signed) Ash Kennedy,
Asst. Grand Chief Engineer, Brotherhood of Locomotive Engineers.
(Signed) Geo. K. Wark,
Vice-President, Brotherhood of Locomotive Firemen and Enginemen.
(Signed) James Murdock,
Vice-President, Brotherhood of Railway Trainmen.
(Signed) H. E. Barker,
General Chairman, Order of Railway Conductors.
(Signed) D. McPherson,
General Chairman, Order of Railroad Telegraphers.
(Signed) A. McAndrews,
Acting General Chairman, Maintenance of Way Employees.

Railway Managers Say Recognition Adequate

Winnipeg, June 16, 1919.

The undersigned have read the letter dated June 16, 1919, addressed to the citizens of Winnipeg, by the Vulcan Iron Works, the Manitoba Bridge & Iron Works, and the Dominion Bridge Company.

In our opinion the proposals contained therein provide for the application of the principle of collective bargaining in exactly the same manner as that principle is applied in agreements between the railway companies and the various bodies of organized employees, and should constitute a fair and just settlement of the question of recognition in dispute between the metal trades employers and their employees.

(Signed) D. C. Coleman,
Vice-President, Canadian Pacific Railway Company.
(Signed) A. E. Warren,
General Manager, Canadian National Railways.
(Signed) W. P. Hinton,
Vice-President and General Manager, Grand Trunk Pacific Railway Company.

A British View of Canada

(From the "London Times" Trade Supplement)

The intelligently directed organization and enterprise which are being employed by Canadian manufacturers and merchants in their endeavors to secure a full share of the markets of the world for the Dominion, will undoubtedly produce remarkable results in the near future. Although Canada has borne her full share of the burden of the war, circumstances have combined to favor the continued development of the country, and to increase its manufacturing capacity to a very considerable extent. The cessation of the output of munitions consequent on the conclusion of the war brought with it the need for converting machinery to peaceful purposes and for securing new markets for Canadian products. By the granting of large credits to Belgium, Roumania, and other European States, Canada has secured an entry into various Continental markets. At the Lyons Fair this year most of the Canadian exhibitors displayed explanatory literature, printed in several European languages. Furthermore, offices and showrooms are being opened in both Paris and Brussels by the Export Association of Canada. Canadian trade commissioners have been established in most of the important countries of the world for some years past. They are "live" men, and their work has undoubtedly been very valuable to Canadian exporters. The Canadian Trade Mission in London is also rendering good service in the development of Canada's export trade. All this shows that Canada is becoming more and more important as a manufacturing State. Although the population of the Dominion is still under 9,000,000, and its chief industry is and will long remain the production of foodstuffs, the industrial development of the country is going ahead so fast that Canada must soon become an active competitor in many of the world's markets. This will be hastened in one way which was perhaps unforeseen when Imperial Preference was first proposed. In order to take advantage of the preferential treatment of British-made goods American manufacturers, in constantly increasing numbers, are establishing branch factories in Canada. American capital is, therefore, being employed in the industrial development of the Dominion to some extent at the expense of that of the United States. Whatever political effect this extension of the close ties between the Dominion and the Republic may have, it is clearly highly advantageous to Canada's industrial progress.

One remarkable advantage Canada possesses for attacking the Continental market is the presence of two and a half millions of French-speaking people in the Dominion. This means that there is seldom much difficulty about securing a thoroughly competent French-speaking representative. French is still the most useful language over a large area of Europe.

News and Views of the Association

There will be found each month in this department a record of the various activities of the Canadian Manufacturers Association during the preceding month. The information is supplied to INDUSTRIAL CANADA officially, and all members of the Association are urged to acquire the habit of reading and checking over the contents of the department carefully in order to keep themselves posted on the work of the Association

Our New Members for July

Sixteen applications for membership in the Association were considered by the Membership Committee at its meeting on July 29, and duly accepted. Five of the sixteen represented additional members, the balance being new members. The latter were as follows:—

Firm.	Address.	Product.
James M. Burns	Rexton, N.B.	Lumber.
Halifax Shipyards, Ltd.	Halifax, N.S.	Ships and repairs.
Four Wheel Drive Auto Co., Ltd.	Kitchener, Ont.	Trucks, trailers, etc.
Corn Products Co., Ltd.	London, Ont.	White corn products.
Dominion Brake Shoe Co., Ltd.	St. Thomas, Ont.	Brake Shoes and parts
Henry Davis & Co., Ltd.	Toronto, Ont.	Baby's wear.
International Machine & Manufacturing Co., Ltd.	Toronto, Ont.	Phonograph motors.
Shell-Bar Boico Supply, Ltd.	Toronto, Ont.	Boiler compound, grate bars, belt dressing.
Edestrand Foundry Co.	Welland, Ont.	Gray iron castings.
L. Chaput, Fils & Cie., Ltee.	Montreal, Que.	Food products.
Page & Shaw Canada, Ltd.	Montreal, Que.	Chocolates, confectionery.

The following additional representatives have been accepted:—

Name.	Firm.	Address.
Geo. A. Schryer	Bathurst Lumber Co., Ltd.	Bathurst, N.B.
A. E. McLean	Bathurst Lumber Co., Ltd.	Bathurst, N.B.
G. E. McCarter	Eclipse Whitewear Co.	Toronto, Ont.
S. H. Chapman	Hurley Machine Co., Ltd.	Toronto, Ont.
Roger B. Hayes	Thompson & Norris Co. of Canada, Ltd.	Montreal, Que.

The Alberta Industrial Congress

The General Manager will attend the Industrial Congress and Tour, arranged by the Alberta Industrial Development Association, August 11 to 16. The secretary of the Maritime Division, Mr. H. R. Thompson, is being sent west by his Division to be present at the convention, and Mr. G. E. Carpenter, secretary of the Prairie Provinces Division, will also be on hand. The membership of the Association have been circularized with a view to arousing interest in this unique gathering and securing the attendance of a large number of manufacturers. While many expressions of approval of the objects of the Alberta Industrial Development Association have been received in reply to the circulars, it is not likely at time of writing that there will be any very large delegation from the east. Apparently the time has not been opportune to permit of many manufacturers getting away.

Winnipeg Members on Board

At the annual meeting of the Winnipeg Board of Trade held July 3, the following members of the Canadian Manufacturers' Association were elected members of the council of the Board:—N. J. Breen, assistant manager, Lake of the Woods Milling Co.; W. J. Bulman, president Bulman Bros., Limited; M. F. Christie, manager G. F. Stephens Co., Limited; John Stovel, president, the Stovel Co. Mr. W. H. Carter, president of the Carter, Halls, Aldinger Co., contractors, was elected president of the Board, and Mr. J. M. Carruthers, manager of the Crescent Creamery Co., was elected chairman of the Manufacturers' Bureau.

Resigns the Chairmanship

The Saskatoon section of the Prairie Provinces Division is at present without a chairman. Mr. F. M. Beatty, manager Cushing Bros., Saskatoon, who has been chairman of the section, is leaving Saskatoon to become manager of the Midland Woodworkers, Limited, formerly the Georgian Bay Shook Mills, at Midland, Ont. Mr. Beatty has rendered good service to the Saskatoon Branch and his associates in the western city regret his departure.

Basis of Importation

The following cable has been received by the Canadian Trade Commission from the High Commissioner in London:—

"Percentage of British Imperial origin in goods admissible under general license for goods produced within Empire reduced from seventy-five to sixty per cent., based upon value of goods at factory not on f.o.b. value."

Tariff Committee

At the meeting of the Tariff Committee held in the Association's head office, Toronto, on July 4th, the following additional members were elected:—

P. McMichael	Dominion Radiator Co., Ltd.	Toronto, Ont.
W. S. Fisher	Enterprise Foundry Co.	Sackville, N.B.
Thos. Cantley	Nova Scotia Steel & Coal Co., Ltd.	New Glasgow, N.S.
H. H. Champ	Steel Co. of Canada, Ltd.	Hamilton, Ont.
R. H. McMaster	Steel Co. of Canada, Ltd.	Montreal, Que.
J. D. Palmer	Hartt Boot & Shoe Co., Ltd.	Fredericton, N.B.
Jos. Daoust	Daoust, Lalonde & Co., Ltd.	Montreal, Que.
L. L. Anthes	Ames-Holden-McCready, Ltd.	Toronto, Ont.
Robt. Myles	Minister, Myles Shoe Co.	Toronto, Ont.
I. H. Weldon	Provincial Paper Mills Co., Ltd.	Toronto, Ont.
H. I. Thomas	J. R. Booth	Ottawa, Ont.
Carl Riordon	The Riordon Pulp & Paper Co., Ltd.	Montreal, Que.
C. Howard Smith	Howard Smith Paper Mills, Ltd.	Montreal, Que.
M. R. Lang	Powell River Co., Ltd.	Vancouver, B.C.
W. F. Humphrey	J. A. Humphrey & Son, Ltd.	Moncton, N.B.
E. Worth	Bonner-Worth Co., Ltd.	Peterboro', Ont.
I. Bonner	Penmans Limited	Paris, Ont.
L. L. McMurray	Gutta Percha & Rubber, Ltd.	Toronto, Ont.
R. E. Jamieson	Canadian Consolidated Rubber Co., Ltd.	Montreal, Que.
C. H. Carlisle	Goodyear Tire & Rubber Co. of Canada, Ltd.	Toronto, Que.
E. W. Hamber	British Columbia Mills, Timber & Trading Co.	Vancouver, B.C.
W. B. Tindall	Consumers Box & Lumber Co., Ltd.	Toronto, Ont.
W. E. Bigwood	Graves, Bigwood & Co.	Toronto, Ont.
Edwin Tomlin	British Columbia Cement Co., Ltd.	Vancouver, B.C.
F. P. Jones	Canada Cement Co., Ltd.	Montreal, Que.
R. L. Cliff	Pacific Milk Co., Ltd.	Vancouver, B.C.
Wm. H. Dunn	Borden Milk Co., Ltd.	Montreal, Que.
J. S. McLean	Harris Abattoir Co., Ltd.	Toronto, Ont.
O. W. Waller	Swift Canadian Co., Ltd.	Toronto, Ont.
S. J. Williams	The Williams, Greene & Rome Co., Ltd.	Kitchener, Ont.
W. S. Barker	Tooke Bros., Ltd.	Montreal, Que.
F. W. Stewart	Cluett, Peabody & Co.	Montreal, Que.
Geo. H. Douglas	Thornton & Douglas, Ltd.	Hamilton, Ont.
C. B. Lowndes	The Lowndes Co., Ltd.	Toronto, Ont.
Thos. H. Watson	Canada Machinery Corp., Ltd.	Galt, Ont.

John Muir	The Goold, Shapley & Muir Co., Ltd.	Brantford, Ont.
C. F. Wheaton	Dodge Mfg. Co., Ltd.	Toronto, Ont.
Logan M. Waterous	The Waterous Engine Works Co., Ltd.	Brantford, Ont.
W. C. Phillips	Frontenac Moulding & Glass Co., Ltd.	Kingston, Ont.
W. M. Gartshore	The McClary Mfg. Co.	London, Ont.
F. S. Corrigan	The Sheet Metal Products Co. of Canada, Ltd.	Toronto, Ont.
T. R. Deacon	Manitoba Bridge & Iron Works Co., Ltd.	Winnipeg, Man.
J. N. Shenstone	Massey-Harris Co., Ltd.	Toronto, Ont.
T. A. Russell	Russell Motor Car Co., Ltd.	Toronto, Ont.
Geo. McLaughlin	McLaughlin Motor Car Co., Ltd.	Oshawa, Ont.
Geo. Henderson	Brandram-Henderson, Ltd.	Montreal, Que.
A. Nieghorn	Nichols Chemical Co., Ltd.	Toronto, Ont.
A. O. Dawson	Canadian Cottons, Ltd.	Montreal, Que.
Michael Hirsch	J. Hirsch & Sons, Ltd.	Montreal, Que.
E. L. Drewry	Ed. L. Drewry, Ltd.	Winnipeg, Man.
Eugene Tarte	La Patrie Publishing Co., Ltd.	Montreal, Que.
T. W. B. London	Balfour, Guthrie & Co., 739 Hastings St. W.	Vancouver, B.C.
W. R. Dunn	International Harvester Co., Ltd.	Hamilton.

Insurance Committee

At the meeting of the Insurance Committee held in the Association's head office, Toronto, on July 31st, the following additional members were elected:

A. H. Whitman	Robin, Jones & Whitman, Ltd.	Halifax, N.S.
C. S. Sutherland	Amherst Boot & Shoe Co., Ltd.	Amherst, N.S.
S. L. Emerson	Emerson & Fisher, Ltd.	St. John, N.B.
F. G. McConnell	L. E. Waterman & Co., Ltd.	Montreal, Que.
R. H. Gillean	Watson, Foster Co., Ltd.	Montreal, Que.
E. Littler	Walter M. Lowney Co. of Canada, Ltd.	Montreal, Que.
L. J. Breithaupt	Briethaupt Leather Co., Ltd.	Kitchener, Ont.
J. C. Notman	McKinnon Dash Co., Ltd.	St. Catharines, Ont
A. W. Hewitt	Consumers' Gas Co. of Toronto	Toronto, Ont.
J. W. Hobbs	Consolidated Plate Glass Co., Ltd.	Toronto, Ont.
G. C. Crean	Robert Crean & Co., Ltd.	Toronto, Ont.
J. C. McCarter	Eclipse Whitewear Co., Ltd.	Toronto, Ont.
R. S. Gourlay	Gourlay, Winter & Leeming, Ltd.	Toronto, Ont.
Wm. Inglis	John Inglis Co., Ltd.	Toronto, Ont.
J. F. M. Stewart	Point Anne Quarries, Ltd.	Winnipeg, Man.
C. W. Furrow	West-Woods, Ltd.	Winnipeg, Man.
A. R. McDiarmid	McDiarmid & Clark	Brandon, Man.
Wm. Martin	Manitoba Gypsum Co., Ltd.	Winnipeg, Man.
C. Meadows	Geo. B. Meadows Co., Ltd.	Toronto, Ont.
T. A. Hollinrake	A. R. Williams Machinery Co., Ltd.	Toronto, Ont.
John T. Ham	Ham & Nott Co., Ltd.	Brantford, Ont.
W. H. Scott	Livingston & Scott	Toronto, Ont.

Membership Committee

The following were elected to the Membership Committee at the regular meeting of that Committee held in the head office of the Association on July 29th:—

Angus McLean	Bathurst Lumber Co., Ltd.	Bathurst, N.B.
Geo. W. Helliar	Brandram-Henderson, Ltd.	Halifax, N.S.
Alex. Wilson	Wilson Box Co., Ltd.	St. John, N.B.
R. H. Williams	Roberts, Simpson & Co.	Halifax, N.S.
H. MacLaren	Alaska, B.C., Bedding Co.	Vancouver, B.C.
McTaggart Cowan	Sterling Glove Co.	Vancouver, B.C.
W. H. Syer	R. M. Moore & Co., Ltd.	Vancouver, B.C.
J. B. Thompson	Jas. Thompson & Sons, Ltd.	Vancouver, B.C.
J. M. Thompson	Beatty Bros., Ltd.	Winnipeg, Man.
C. F. Roland, Jr.	Coca-Cola Co., Ltd.	Winnipeg, Man.
J. D. Windrum	Mayer Co., Ltd.	Winnipeg, Man.
F. M. Beatty	Midland Woodworkers, Ltd.	Midland, Ont.
Wm. Innis	P. Burns Co., Ltd.	Calgary, Alta.
F. W. Stewart	Cluett, Peabody & Co.	Montreal, Que.
A. A. Bittues	Gillette Safety Razor Co.	Montreal, Que.
P. E. Joubert	Lamontagne, Ltd.	Montreal, Que.
W. C. Coulter	Booth-Coulter Copper & Brass Co., Ltd.	Toronto, Ont.
C. Meadows	Geo. B. Meadows Co., Ltd.	Toronto, Ont.
Geo. Brigden	Brigden's, Ltd.	Toronto, Ont.
J. S. McKinnon	S. F. McKinnon & Co., Ltd.	Toronto, Ont.
C. B. Watts	Dominion Millers' Association	Toronto, Ont.
J. M. Sinclair	Eureka Mineral Wool & Asbestos Co.	Toronto, Ont.
A. E. Hatch	Canada Steel Goods Co., Ltd.	Hamilton, Ont.
C. A. Murton	Canada Ready Print Co.	Hamilton, Ont.
C. R. McCullough	Ontario Engraving Co., Ltd.	Hamilton, Ont.
H. Winfield	Young-Winfield, Ltd.	Hamilton, Ont.
J. J. Gibbons	J. J. Gibbons, Ltd.	Toronto, Ont.

Industrial Relations Committee

The following new members were added to the Industrial Relations Committee at a meeting of the Committee held in the head office of the Association on July 30th:—

J. A. McDonald	Amherst Pianos, Ltd.	Amherst, N.S.
J. A. Marven	J. A. Marven, Ltd.	Moncton, N.B.
A. G. Robb	Robb Engineering Works, Ltd.	Amherst, N.S.
G. H. Duggan	Dominion Bridge Co., Ltd.	Montreal, Que.
H. Williams	Canadian Vickers, Ltd.	Montreal, Que.
W. A. Black	Ogilvie Flour Mills Co., Ltd.	Montreal, Que.
C. G. Robson	W. H. Clark & Co., Ltd.	Edmonton, Alta.

Organization Ready but Industry Lacking

A large Canadian manufacturing concern of high standing finds itself in rather a peculiar position, according to information received by INDUSTRIAL CANADA. It is unable to expand its own line of business any farther and, in order to keep its organization intact, is anxious to become connected with some other concern making a different product, in which it could invest capital and utilize its present efficient organization in expanding business. Any firms which might be interested in discussing this proposition are invited to write to the editor, stating the line of manufacture in which they are engaged.

E. Parnell	Spiers, Parnell Baking Co., Ltd.	Winnipeg, Man.
L. R. Barrett	Vulcan Iron Works, Ltd.	Winnipeg, Man.
H. B. Lyall	Manitoba Bridge & Iron Works, Ltd.	Winnipeg, Man.
J. E. Davies	Alberta Foundry & Machine Co.	Medicine Hat, Alta.
C. M. Thompson	Brantford Roofing Co., Ltd.	Brantford, Ont.
M. R. Meldrum	Herbert Morris Crane & Hoist Co., Ltd.	Niagara Falls, Ont.
H. Bertram	John Bertram & Sons Co., Ltd.	Dundas, Ont.
F. R. Lalor	Monarch Knitting Co.	Dunville, Ont.
W. R. Breyfogle	De Laval Co., Ltd.	Peterboro', Ont.
H. J. Waddie	Canadian Drawn Steel Co., Ltd.	Hamilton, Ont.
J. M. Taylor	Taylor Forbes Co., Ltd.	Guelph, Ont.
S. J. Williams	Williams, Green & Rome Co., Ltd.	Kitchener, Ont.
W. M. Gartshore	McClary Mfg. Co.	London, Ont.
Geo. E. Peacock	Tudhope-Anderson Co., Ltd.	Orillia, Ont.
H. L. Thomas	J. R. Booth	Ottawa, Ont.
Geo. Pattinson	Geo. Pattinson & Co.	Preston, Ont.
C. O. Stillman	Imperial Oil Co., Ltd.	Sarnia, Ont.
C. Howard Smith	Howard Smith Paper Mills, Ltd.	Montreal, Que.
Wm. Rutherford	Wm. Rutherford & Sons Co., Ltd.	Montreal, Que.
Geo. D. MacKinnon	MacKinnon Steel Co., Ltd.	Sherbrooke, Que.
J. A. Northway	John Northway & Son, Ltd.	Toronto, Ont.
A. C. Rogers	Canada Cloak Co.	Toronto, Ont.
F. P. Jones	Canada Cement Co., Ltd.	Montreal, Que.
W. J. Bulman	Bulman Bros., Ltd.	Winnipeg, Man.
Frank Whitton	Steel Co. of Canada, Ltd.	Hamilton, Ont.
Ross H. McMaster	Steel Co. of Canada, Ltd.	Montreal, Que.
J. A. Coulter	John Morrow Screw & Nut Co., Ltd.	Ingersoll, Ont.
R. S. McLaughlin	McLaughlin Motor Co., Ltd.	Oshawa, Ont.
G. M. McGregor	Ford Motor Co., Ltd.	Windsor, Ont.
C. H. Waterous	Waterous Engine Works, Ltd.	Brantford, Ont.
Mr. Grant	International Harvester Co., Ltd.	Hamilton, Ont.
Geo. Wedley	Cockshutt Plow Co., Ltd.	Hamilton, Ont.
A. F. Hatch	Canada Steel Goods Co., Ltd.	Hamilton, Ont.
Wm. Inglis	John Inglis Co., Ltd.	Toronto, Ont.

The principal subjects considered by the Committee were the arrangements for the National Industrial Conference which has been called by the Government for September 11th, in Ottawa.

Resolutions Presented to the Government

An important innovation was made this year in connection with the presentation to the Government at Ottawa of the resolutions adopted at the annual meeting of the Association. Heretofore, it has usually been the custom to mail copies of the resolutions to the various ministers. This year, however, an influential delegation of officers and members of the Association proceeded to the capital, presented the resolutions and spoke in their support.

The delegation which went to Ottawa on August 5th was received by the Premier, Sir Robert Borden; Sir George Foster, Minister of Trade and Commerce, and Sir Henry Drayton, the new Minister of Finance. After the members of the delegation had been introduced by Mr. G. M. Murray, who had arranged the interview, Mr. J. E. Walsh, general manager, formally presented the resolutions, which had been specially printed in attractive form for the occasion. He was followed by the President, Mr. T. P. Howard, who spoke briefly on the resolutions as a whole. Special attention was then devoted to the resolution urging the appointment of a Tariff Board by Mr. E. G. Henderson, Windsor, and Mr. G. C. Coppley, Hamilton. Mr. G. H. Douglas, Hamilton, spoke on the resolution with respect

to the Imperial Preferential Tariffs. A favorable hearing was given by the Ministers and replies were made by the Premier and Sir George Foster, who assured the delegation of their interest and promised careful consideration of the resolutions presented.

The following comprised the delegation:—

T. P. Howard (Pres.)	Phœnix Bridge & Iron Works, Ltd.	Montreal.
G. C. Coppley	Coppley, Noyes & Randall, Ltd.	Hamilton.
F. C. Daniels	Dominion Textile Co.	Montreal.
G. H. Douglas	Thornton & Douglas	Hamilton.
C. V. Harding	Toronto Carpet Mfg. Co., Ltd.	Toronto.
S. Harris	Harris Litho. Co., Ltd.	Toronto.
A. F. Hatch	Canada Steel Goods Co., Ltd.	Hamilton.
E. G. Henderson	Canadian Salt Co., Ltd.	Windsor.
T. A. Hollinrake	A. R. Williams Machinery Co., Ltd.	Toronto.
P. E. Joubert	Lamontague, Limited	Montreal.
L. L. McMurray	Gutta Percha & Rubber Mfg. Co., Ltd.	Toronto.
G. M. Murray	C. M. A.	Ottawa.
Joseph Picard	Rock City Tobacco Co., Ltd.	Quebec.
George A. Slater	George A. Slater Limited	Montreal.
C. Howard Smith	Howard Smith Paper Mills, Ltd.	Montreal.
F. W. Stewart	Cluett, Peabody & Co.	Montreal.
H. J. Thomas	J. R. Booth Co.	Ottawa.
J. E. Walsh	C. M. A.	Toronto.
Geo. W. Watts	Canadian General Electric Co., Ltd.	Toronto.
A. W. White	Geo. White & Sons Co., Ltd.	London.

Company Test Cases

It is announced that the Judicial Committee of the Privy Council upon application has granted leave to appeal against the decision of the Supreme Court of Canada, in favor of the provinces, requiring companies operating under Dominion charters to become licensed under Provincial acts, before carrying on business in the different provinces.

The actions in Saskatchewan and Manitoba were brought with the concurrence of the Provincial authorities by way of testing the validity of the acts and were carried to the Supreme Court of Canada. A similar action was brought in Ontario but it was not carried farther than the Appellate Division of the Supreme Court of Ontario.

The cases now on appeal to the Judicial Committee of the Privy Council, which are being carried at the Dominion Government's instance, will be consolidated as one, so that there is every reason to believe the vexed question at issue will shortly be determined in a comprehensive and definite manner.

The question of the validity of the provincial acts requiring Dominion companies to become licensed being sub-judice, all claims by the provinces should be suspended pending the judgment of the Privy Council.

Royal Ontario Museum

As the result of a joint movement recently inaugurated by a joint committee of the Toronto Branch of the C.M.A., the Toronto Board of Trade and the co-operation of other representative local associations, the Royal Ontario Museum, Toronto, is now open to the public on Sundays, free of charge, from two to five p.m. The educational value of the museum and the desirability of the industrial workers having access to it on Sunday afternoons, with the necessary quiet and leisure, will undoubtedly have a beneficial effect. Manufacturers would do well to encourage their employees to study the many exhibits showing the progress of the industries to be found there.

Trade with Germany and Austria

Food supplies may now be exported from Canada to German and to certain portions of Austria. For export it is necessary to secure a license from the Canadian Trade Commission, stating description, quantity, value and destination of the shipment and giving the name of the consignee. The export license must be presented to Customs. The Canadian Trade Commission will consider telegraphed applications for export licenses.

Activities of the Prairie Provinces Division

By G. E. CARPENTER
Secretary, Prairie Provinces, Division, C.M.A.

AN invitation has been extended by the Hon. Chas. Stewart, Premier of Alberta, on behalf of the Alberta Government, to the members of the division to attend the Industrial Congress and Provincial Tour to be held in Alberta from August 11th to 16th. The Congress will place before its visitors data in relation to the natural resources and industries of Alberta and the Canadian West, with the object that serious consideration may be given the economic development of the trade of the Dominion, the extension of markets, Oriental and Pacific trade routes, and generally the whole phase of the western era now dawning. The addresses will be given by men of international reputation in commerce, industry and transportation.

The delegates will assemble at Medicine Hat on August 11th, and will be conveyed by special train to Lethbridge the following day, thence to Calgary, where the two days' session of the Industrial Congress will be held on August 13th and 14th, after which the journey will be continued to Edmonton, the capital city of the province, where the delegates will be entertained by the Government and City during Friday and Saturday. That night the train will leave for Banff, arriving there Sunday morning. The delegates can then continue their trip through the Rocky Mountains or in such direction as they may desire.

For reasons that you will readily appreciate it is very desirable that anything that will tend to increase manufacturing in Western Canada should receive the hearty support of members of this division. In addition to this, the tour will provide splendid means for each member to visit their correspondents in the Province of Alberta, and it is hoped that a large number will try and attend the Congress.

Labor Situation

The general labor situation in Winnipeg has been much disturbed during the past month, as was to be expected following the general six weeks' strike, ending June 26th, and as an effort was made by the strike committee to call out workers in other cities in the Prairie Provinces in sympathy with the Winnipeg workers a short review of the situation is given below for the information of members of the division. In the first place the protracted tie-up in Winnipeg resulted in much business, which ordinarily would have been placed with Winnipeg manufacturers being ordered from other sources of supply, so that when the general strike was called off employers were not in a position to furnish work for as many men as they had on their pay rolls at the time the general strike was called. Then too, they were faced with the fact that even before the general strike was declared off many employers had resumed operations, and they could not see their way to discharge employees who had been taken on during the strike to make room for workers who had thrown

up their employment without notice and in most cases where no grievance existed with their employers. These two factors resulted in several hundred men being left without employment when the general strike was declared off. Unless immediate steps are taken by civic, provincial and Dominion Governments to furnish work for a large number of men, there is a grave possibility that there will be severe suffering in the city this coming winter. This is a condition which must be realized by these bodies, and it is hoped that they will take adequate steps without delay.

Investigation of Causes of Strike

The Royal Commission appointed by the Manitoba Government at the request of the Trades and Labor Council of Winnipeg, upon the general strike being declared off, to investigate the causes of the strike and make recommendations, has held numerous sessions. The representatives of the Trades and Labor Council in the first place appeared to confine their efforts before this commission to showing that discrimination was practised by employers against certain strikers, and to secure a remedy for this. However, Judge Robson took the position that before this matter could be considered, those responsible for calling the strike would have to show that their skirts were clean. The representatives of the Trade and Labor Council at first declined to go ahead with this feature of investigation, inasmuch as certain of the strike leaders are on trial for conspiracy to incite sedition. Therefore, the proceedings of the Commission were adjourned for a few days. However, they have now been resumed, and Mr. Winning, President of the Trade and Labor Council stated to the Commission that,—

"Labor was very much dissatisfied with conditions as they existed. The causes of this were: unemployment, high cost of living, profiteering, the refusal on part of some of the employers to recognize collective bargaining, and the right of the workers to organize, the lack of action on the part of the Government, and poor working conditions."

Mr. Winning omitted to state that when the Manitoba Government enacted the Industrial Disputes Bill for the purpose of investigating and dealing with most of these subjects, organized labor refused to have anything to do with the Bill, its representatives telling the Government publicly that it would have nothing to do with any Board such as the bill authorized, which recognized the rights of capital in industry as at present organized. Consequently when the bill was passed the Trades and Labor Council refused to nominate any of its members to the Board, although invited so to do by the Manitoba Government.

The preliminary trial before the magistrate of the strike leaders charged with conspiracy to incite sedition is proceeding. The evidence being brought out by Government Counsel, according to newspaper reports, appears to connect up the strike leaders with the One Big Union Convention at Calgary, which openly advocated Soviet Government in Canada, and the seizure of plants by the workers. The evidence also goes to show that the strike committee endeavored to control many activities of the citizens; further, that the strikers committee controlled the city for a portion of the strike at least; Mayor Gray's testimony on this point being very emphatic.

Royal Commission on Industrial Relations

Every member of the Division has been furnished with the copy of the report of the Royal Commission on Industrial Relations, appointed by the Dominion Government to inquire into industrial relations in Canada. When this was received a general meeting of members was held on July 12th, when a special committee of the Division was appointed to study the report carefully and make recommendations to a general meeting of members to be held at a future date.

In the meantime the Dominion Government has decided to call a joint conference of employers and employees in Ottawa on Sept. 11th, and this association has been asked to appoint twenty-five delegates. The division has suggested the names of several large employers throughout this territory to the Head Office. It is expected that the twenty-five will be appointed at an early date, in order that they may study the matter thoroughly before the Conference held in Ottawa. In the meantime the committee of Winnipeg employers is giving the matter careful consideration. Every branch of the division will be kept informed of what is being done, and their views upon the important matter of industrial relations will be welcomed by the Winnipeg Branch of the division.

Taxation of Property Outside Province

By H. MACDONALD
Secretary, Legal Department, C.M.A.

IN connection with attempts being made by various provinces from time to time to tax property situate outside the taxing province, the validity of which our Legal Department has uniformly disputed, an interesting decision on the subject is announced.

On June 28th the Quebec Court of Appeal rendered an important decision to the effect that any attempt to levy tax on property locally situate outside the province is not "taxation within the province," and is beyond the competence of a provincial legislature. The case was Barthe *et al.* vs. Alleyn, on appeal from the Superior Court. Barthe is the collector of the successions tax in Quebec, and he claimed, through the court, a certain tax on property that was owned by the heirs of the late Hon. John Sharples, in the Province of Ontario. This claim was contested on the ground that Quebec could not impose taxes on property owned in other provinces, but the decision of the Superior Court was in favor of the province.

The decision of the Court of Appeal, reversing that of the Superior Court, is based on the consideration "that the taxation of transmissions within the province of property locally situate outside the province is an attempt to do indirectly that which the legislature is forbidden to do directly, and is in effect taxation of property not within the province."

Thus judicial opinion is clearly to the effect that the taxing powers of the provinces must be limited to their respective jurisdictions.

The "Canadian" Tractor

Alberta Foundry and Machine Co., Limited are now Manufacturing this Machine in Medicine Hat

In the June issue of INDUSTRIAL CANADA, an item dealing with the manufacture of tractors in Medicine Hat, taken from an article appearing in the Calgary *Herald*, was published. This article stated that "The Alberta Foundry will not be ready to produce their 'Canadian' tractor for awhile." This was not correct, as the Alberta Foundry have already produced and satisfactorily tested out their first tractor, and are now manufacturing the same.

Canada's New Bankruptcy Act Explained

The More Important Features are Outlined and Certain Provisions which will be New to Some of the Provinces are Pointed Out—Facilities Provided by the Act Will be Increasingly Appreciated

By H. MACDONALD
Secretary, Legal Department, C.M.A.

AFTER discussion in the Canadian Parliament during two sessions and preliminary preparations extending over several years, a Federal Bankruptcy Act was passed in the 1919 session, which may be regarded as a factor in the re-adjustment incidental to the war. During the course of the Bill, our Legal Department, through our Ottawa office, kept in close touch with the Government and with other public bodies upon the subject, with a view to safeguarding the interests of manufacturers, and we are glad to state that we were able to introduce very important amendments which are incorporated in the Act and which will contribute to the greater protection of creditors, in line with the legislation of other countries.

Deposit Unclaimed Dividends

Amongst these amendments we particularly urged the adoption of provisions for proper accounting by and discharge of trustees in bankruptcy, and procured the enactment of effective clauses providing that unclaimed dividends shall be deposited by the trustee with the Minister of Finance, to be afterwards available to creditors entitled thereto, with accrued interest thereon.

The more important features of the Act are as follows:—

First, it introduces uniformity in the legislation of Canada, something which has been needed for many years. The old assignment acts of the various provinces will become non-effective as soon as the Governor-General has proclaimed the new Act. This will be done when the general rules, which are now being drafted, are completed, which will be sometime about November.

Second, it provides that a creditor or several creditors together, knowing a debtor to be insolvent and unable to collect his account, and having a claim of $500, may apply to the courts to have the debtor adjudged a bankrupt. The whole circumstances of the case will be passed upon by a judge of such as have been constituted by the Act, courts of bankruptcy to carry out the provisions of the Act. The court may dismiss the petition of the creditor, may stay the proceedings, or may grant an order, as the circumstances warrant. In the past, when a recalcitrant debtor has refused to make an assignment under the assignments acts, the only course the creditor had was to issue a writ, obtain judgment and issue execution; the result was that every creditor had to follow suit in order to protect his interest and the unfortunate debtor was loaded down with costs, the estate being distributed by the sheriff *pro rata* to those creditors only who had taken action.

Third, the act provides for the discharge of an honest debtor who has turned over his assets for the benefit of his creditors, relieving him from a load of debt that he has been unable to pay. The Act provides that a debtor may make application to the court for a discharge from his liabilities; all persons interested in the case may appear before such court, and after hearing all the evidence, the judge will decide whether the debtor shall receive his discharge, power being vested in the court to refuse the discharge absolutely, or it may suspend for a time the discharge, or it may grant a conditional discharge, say, until the debtor has paid fifty cents on the dollar, or by requiring the debtor to consent to judgment being entered against him for any balance owing at the date of the discharge, such balance to be paid out of future earnings or after acquired property. Some of the things that will militate against a debtor obtaining his discharge, are that his assets at the date of the assignment were not of a value equalling fifty cents on the dollar of the unsecured liabilities; that the debtor has omitted to keep proper books of account; that the debtor continued to trade after knowing he was insolvent; that the debtor has failed to account satisfactorily for loss of assets or deficiency of assets to meet his liabilities, or has brought on his bankruptcy by speculation or by unjustifiable extravagance in living or by gambling or by culpable neglect of business; that the bankrupt within three months of the assignment has given an undue preference to any of the creditors, or that he has been bankrupt before, or has been guilty of fraud, or fraudulent breach of trust. There will be no difficulty for an honest debtor who has turned over all of his assets to his creditors, to obtain his discharge; the Act is framed to protect such a debtor and to penalize the fraudulent one.

New Features

In addition to the three outstanding features enumerated above, there are a number of provisions that will be new to some of the provinces, such as:—

(*a*) Provision for ratifying compositions and compelling minority creditors to accept the ruling of the majority, the clause providing that a composition shall be binding when accepted at a meeting whether the majority in number of creditors who hold two-thirds of the amount of the proved debts resolve to accept the proposition, providing the same is approved by the court.

(*b*) Trustees in future shall be known as "authorized trustees," and shall be appointed by the Governor-General-in Council. All authorized trustees must provide general bonds before acting as such and in addition shall provide special bonds in each estate unless relieved by vote of the creditors. The creditors may remove a trustee and substitute another.

(*c*) A debtor who has made an assignment shall be known as "an assignor"; a debtor who has been forced into bankruptcy by his creditors shall be known as "a bankrupt."

(*d*) Trustees shall have power to sell patented articles without being bound by any restrictions such as may apply to ordinary traders.

(*e*) A trustee may carry on the business of a debtor so far as may be necessary for the beneficial winding-up of the estate and may incur obligations and make advances for such purposes.

(*f*) No trustee shall deposit any sums received by him as trustee into his private banking account.

(*g*) All settlements made by debtors within one year previous to an assignment, except in good faith and for valuable consideration, shall be void as against the trustee, and shall be void within five years previous to such assignment, unless it can be shown that debtor was able to pay his debts in full without aid of the property assigned.

(*h*) All marriage contracts for the future payment of money to the wife, or husband, or children of the debtor, where the debtor had not at the date of the marriage any estate or interest in the property assigned shall be postponed until all claims of other creditors have been satisfied unless the contract has been executed previous to the assignment and even if

executed shall be void, if the payment or transfer were made within six months of the assignment.

(*i*) Assignments of book debts unless registered in accordance with provincial statute shall be void as against trustee.

(*j*) Fraudulent preferences given within three months preceding an assignment may be set aside.

(*k*) Banks must notify the trustee of the existence of any balances standing to the credit of the debtor.

(*l*) The Bankruptcy Act shall apply to insolvent corporations; these have hitherto been wound up under the Winding-Up Act.

(*m*) Trustees must pay dividends promptly, not later than six months and earlier if required by the inspectors and must declare a dividend when sufficient money is on hand to pay ten per cent.

(*n*) Unclaimed dividends shall be deposited with the Minister of Finance.

(*o*) The remuneration of trustees is limited to five per cent. of the cash receipts.

(*p*) Inspectors' fees are done away with, only their out-of-pocket expenses being allowed.

(*q*) Unliquidated damages arising otherwise than by reason of a contract, promise or breach of trust shall not be provable.

(*r*) Secured creditors, in cases where the trustee elects to take over the security at the valuation placed upon it by the creditors, shall not be entitled, as heretofore, to an extra ten per cent.

(*s*) Claims by husband or wife for wages, money or other property lent to the debtor, shall not be entitled to claim upon the estate until all of the creditors have been paid in full.

(*t*) Claims for wages, exceeding three months, by father, son, daughter, mother, brother, sister, uncle or aunt shall not be allowed until all other claims have been paid.

(*u*) No officer, director, or shareholder of an insolvent corporation shall be entitled to claim for wages exceeding three months until all other claims have been paid.

(*v*) Rent is now preferred all over Canada only in an amount not exceeding the value of the distrainable assets and not exceeding three months accrued due prior to the assignment plus the cost of distress—if any.

(*w*) Accelerated rent under leases shall rank upon the estate as an ordinary creditor, but not more than for three months.

(*x*) Trustees may retain the lease or may disclaim same and may assign the lease or sublet the premises for the unexpired term.

(*y*) The debtor must attend the first meeting of his creditors for the purposes of examination and giving information.

(*z*) The debtor must give an inventory of his property, a list of his creditors and his debtors and do everything to assist the trustee in winding-up the estate. If the debtor fails to perform the duties thus imposed upon him he shall be guilty of contempt of court and may be punished accordingly.

(*aa*) Barristers, solicitors, or advocates of any court in any province may practise in the bankruptcy courts in any or all of the provinces.

(*bb*) An undischarged bankrupt may not obtain credit to the extent of $50 or upwards from any person without informing that person that he is an undischarged bankrupt, under penalty of a fine not exceeding $500, or one year's imprisonment or both, or if he enters into any business under a name other than that of which he was adjudicated a bankrupt without making such disclosure.

(*cc*) If a person having been adjudged a bankrupt and re-entering business fails to keep proper books of account, he shall be liable to a fine of $1,000 and to one year's imprisonment.

(*dd*) Proper books of account are defined for the first time as such books of account as are necessary to exhibit or explain the transactions and financial position of a trade or business, including a book containing entries from day to day in sufficient detail of all cash received and paid, as well as an account of all goods sold and purchased and statements of annual and other stocktaking.

(*ee*) A creditor who maliciously endeavors to force a debtor into bankruptcy shall be liable to a fine of $1,000, or two year's imprisonment, or both.

The Act applies to all corporations with the exception of banks, railways, trust and insurance companies and to all persons except farmers and wage-earners, earning less than $1,500 a year.

A Unique Exhibition Held at Kitchener

By ALEX. MARSHALL
Manager, Commercial Intelligence Department, C.M.A.

THE city of Kitchener has once more distinguished itself for enterprise and initiative. During the week of July 21-26 the famous arena where the big hockey games are pulled off was occupied by an exhibition that was unique for Canada.

Among the decorated booths one could find everything connected with the shoe and leather trade from sole leather and machinery to the finest dressing for white kid shoes. As for the shoes themselves, it would be an odd sort of human being who could not be satisfied. From the tiniest of baby shoes to the big 16-in. prospectors' boots, felt-lined lumbermen's boots and rubber hip boots, every class or kind was represented. In fact, if any adverse criticism is to be made it is that some of the exhibitors had too many lines. However, they all went to make a fully representative show.

Not only was the showing of leathers, shoes, machinery and findings good, but information about any subject connected with the business from hides up could be had for the asking from the numerous authorities present at the show. When to all this array of talent was added the wholesalers and retailers who had special days set apart, it would be difficult to imagine a more complete and representative gathering of the whole trade than occurred on occasions during the week. Important results are bound to follow from this first attempt at getting all parts of the shoe industry together, both socially and in a business way.

Strong emphasis was laid on the social side of the affair. All kinds of people could be seen chatting in groups and exchanging viewpoints. This part was well looked after officially, too, for on Tuesday night, the exhibitors and their friends were the guests of the Lang Tanning Company at a banquet where there was "a feast of reason and a flow of soul," and other things. On Wednesday, the retailers from all over the Dominion who had met in their first annual convention in Toronto on the two previous days were the guests of the exhibition authorities. In the evening everybody connected with the exhibition, guests, retailers, wholesalers, manufacturers and exhibitors were carried off to Bridgeport in a fleet of motors and there entertained to a buffet luncheon by the Breithaupt Leather Co.

At both these functions the representatives of the different parts of the trade exchanged greetings and "jollied" one another along. Such representative men as G. H. Rieder, Ames, Holden, McCready, Ltd.; P. A. Doig, Tetrault Shoe Mfg. Co.; A. R. Kaufman, Kaufman Rubber Co.; Geo. Lang, Lang Tanning Co.; L. J. & L. O. Breithaupt, Breithaupt Leather Co.; L. S. Scott, Getty & Scott, Ltd., president, Shoe Manufacturers Association of Canada; G. W. McFarland, Williams Shoe, Ltd., Chairman, Ontario Shoe Manufacturers Association; Warren T. Legan, President, National Shoe Retailers Association; N. M. Davison, Canadian Consolidated Felt Co., Ltd., took part in the speech-making.

There was also a never-failing orchestra which produced a fine line of jazzy tunes and when the occasion demanded it, led the assembled shoe men in popular songs.

The organizers of this enterprise deserve great credit for their energy and resource and much praise has been voiced to Mr. Chas. A. Ahrens, of Chas. A. Ahrens, Ltd., President of the Exhibition, and his numerous committees for the success that attended their efforts. They certainly proved that Canada is finding her own feet commercially and their effort is well worthy of emulation.

Activities of the Reconstruction Association

Work Being Extended to British Columbia—What the Western Committee has Accomplished—Investigation Department Reports on Retail Prices in Canada and United States—Much Useful Publicity Work Being Done

By SIR JOHN WILLISON

President, Canadian Reconstruction Association

INITIAL plans for the organization of a British Columbia branch of the Canadian Reconstruction Association have been completed by the Western Committee and approved by the General Executive. The Western Committee has further strengthened its position throughout the Prairie Provinces, and many new members are reported. In the course of a special organization trip, Mr. Charles F. Roland, Secretary of the Western Office, visited Brandon, Regina, Moose Jaw, Medicine Hat, Calgary, Vancouver, and Victoria, seeing prominent men in the various centres and receiving gratifying assurances of support. As a result of conferences in Vancouver, it was decided not to create a separate British Columbia committee, but to recommend extension of the Western Office to include that province, while appointing an assistant secretary to deal with British Columbia questions. It was further recommended that the British Columbia branch should appoint three members to the Western Committee, one of them to be represented on the Executive Board of the Association. Mr. Roland's full report came before the Executive at its last meeting in Montreal, and was fully approved.

In a special report on the work of the Western Committee Mr. Roland presents the following outline of some of his chief activities:

Thirty-two Western Boards of Trade and municipalities have passed resolutions endorsing the aims and objects of the Canadian Reconstruction Association.

A series of circulars and bulletins, dealing with Western problems and general reconstruction activities, have been published fortnightly, and over 28,000 publications of this nature have been distributed since January 1.

The Western Secretary has held many conferences and meetings with groups of business men interested in the development of particular industries, such as the potato flour industry, hemp industry, Kaolin clay and pottery industry, utilization of flax straw, etc.

Work of Western Committee

The Committee has urged the necessity for greater production in field and factory. It has been active in supporting Federal and Provincial housing plans. It has consistently urged scientific utilization of natural resources, the establishment of better relations between capital and labor, and development of the home market and purchase of Made-in-Canada products. It was influential in securing legislation from the Alberta and Manitoba Governments for the establishment of Departments of Industry in those provinces. Through the representation of its individual members at conferences and on delegations before the Manitoba Cabinet, it was further instrumental in securing the passage of the "Industrial Conditions Act," and representatives of the Western Committee were appointed on the Commission. It has carried out considerable investigation work, more particularly on the tariff question, and has reproduced and distributed thousands of circulars on this subject prepared by the head office. It has warmly supported the movement for a proposed national conference on moral education, to be held in Winnipeg next October. It has endeavored, through conferences with representative organizations, clubs, and societies, to promote a better understanding between agricultural and industrial interests in the West. It has issued a regular weekly press service to daily and weekly newspapers. Finally, it has been active in support of the proposed Alberta Industrial Conference this month.

Among the outstanding general activities of the Association have been its Made in Canada and anti-Bolshevist campaigns. Reference to both of these have been made in previous issues of INDUSTRIAL CANADA. It is gratifying to be able to report that the demand from manufacturers for the Association's Made in Canada insert cards has been so extensive that already 2,500,000 are in circulation, while the first edition of 250,000 leaflets, containing a summary of the Overman Committee's Report on German Propaganda and Bolshevism in the United States, has been exhausted.

Motion Pictures Being Shown

Three of the initial six motion picture films produced by the Association to illustrate the national advantages of industrial development, are now being shown and the remainder will be produced shortly. The motion pictures already produced include the pulp and paper, iron and steel, and woollen industries. Two other films will be shown shortly, dealing with the grain and milling industry and the agricultural machinery industry.

In view of the necessity for the development of domestic and foreign trade, important enquiries are being conducted by the Investigation Department into comparative retail selling prices of manufactured articles in Canada and the United States, and the problem of providing Canadian credit for foreign purchases in the Dominion. While the Department has not yet completed its examination of comparative Canadian and American prices, it has submitted an interim report containing the following important conclusions:

1. Canadian retail selling prices of manufactured commodities in most cases are substantially lower than retail selling prices in the United States, plus the Canadian import duty.

2. Many commodities manufactured in Canada and protected by a tariff on imports are sold to the Canadian consumer at prices as low, and not infrequently lower, than retail selling prices in the United States of comparable commodities, even without considering the duty.

With regard to foreign trade, Canada this year will have to provide European credits aggregating approximately $500,000,000 if our exports are to be maintained at the same level as during the war. The Dominion Government has already extended credits of $25,000,000 each to Roumania, Greece, and Belgium, and a credit of up to $50,000,000 to the British Government for the purpose of buying timber in Canada. In addition, a Canadian Government credit has been offered to France. The foreign business which has been obtained for Canada against these credits is to-day contributing in no small measure to the maintenance of Canadian prosperity and the continued operation at full capacity of certain Cana-

dian industries. If, however, Canada is to take advantage of the almost unlimited foreign trade opportunities which are offering at the present time, very large additional credits must be provided, and the Government has clearly indicated its view that the responsibility for providing further industrial credits should now be assumed by the business and financial interests of the country.

In Canada, as in the United States, the question of providing credits for foreign purchases appears to be largely an investment problem. A solution is difficult under present conditions, because of the financial needs of the Federal, Provincial, and Municipal Governments. Substantial progress has, however, been made in the United States and the subject is receiving serious study in Canada. The Investigation Department is engaged in the preparation of a leaflet analyzing the problem and reviewing what is being done in the United States.

A series of leaflets relative to specific Canadian industries is also under preparation by the Investigation Department. These will contain an analysis of the importance of such industries in Canadian national development; information relative to cost of production in Canada and the cost of producing comparable commodities in other countries; a comparison of prices in Canada and elsewhere, and a study of the effect of the tariff in relation to such prices. It is the hope of the Association that these leaflets may help to remove certain misunderstandings in connection with Canadian industrial development. The first in the series will deal with the agricultural implement industry and the second with the woollen industry.

New British Regulations

Copy of an Important Memorandum Respecting Marks on Goods Imported for Home Use

THE following memorandum is an official statement issued by the British Department of Customs, explaining the use of various marks placed on goods going into Great Britain. The statement outlines clearly what may and may not be done with regard to the use of trade and other marks. Canadian manufacturers who are doing business in the British Isles will be well repaid by a study of these provisions which cover almost every conceivable method of marking.

1. Foreign goods imported in the United Kingdom which do not bear any marks whatever, either on the goods themselves or on the packages or wrappers containing them, are not required to bear any qualifying statement or indication such as "Made abroad," "Made in Japan," etc.

2. Foreign manufactured goods bearing a name or trade mark, being or purporting to be, the name or trade mark of a manufacturer, dealer or trader, in the United Kingdom, must have that name or trade mark accompanied by a definite indication of the country or origin of the goods. The name of the country is a sufficient indication, without the words "Made in," if a name or trade mark only appears, *e.g.*, "John Smith, Holland," would be satisfactory. If such a mark as "John Smith, Sheffield," is used then the qualification must be "Made in Holland, or similar wording.

3. If foreign imported goods bear the name of a place identical with, or a colorable imitation of, the name of a place in the United Kingdom, the name should be accompanied by the name of the country in which the place is situated. Thus Boston, in Massachusetts, should be accompanied by the name "United States," or by the initials, "U.S.A."

4. If a trade description includes the name of a place, and the goods on which it appears are not the produce of that place, or of the country in which it is situated, the trade description must be accompanied by a statement indicating the actual country of production. For instance, a wine, the product of California, and described as "Sherry" (which word is derived from the name of the place Xeres), should have that description accompanied by the statement "Produced in California," or should be described as "California Sherry." An exception to this rule is made in cases where the name of a place in a trade description is indicative merely of the character of the goods, and is not calculated to mislead as to the country of origin. Thus such a description as "Brussels Carpet," or "Portland Cement," need not be accompanied by a statement of the country of actual production, unless as required under paragraph 2 above.

5. Trade descriptions in the English language applied to foreign goods imported for use from non-English-speaking countries are not regarded as indirect indications that the goods are of British or Irish origin, unless the officers have good ground for considering that such trade descriptions are specially designed to convey and do in fact convey, an impression of British or Irish origin for the goods.

Trade descriptions on imported goods in a foreign language which is not that of the country from which the goods are imported must be accompanied by a statement of the actual country of production of the goods, *e.g.*, "Made in Portugal."

6. As regards watches, any mark on the case is deemed to extend to the watch. If, therefore, a watch case is made in this country, and bears any statement or indication of such origin (as, for instance, a British assay mark), and the watch itself is made in Switzerland, then there must appear either

(*a*) in close proximity to the assay mark a conspicuous statement that the watch is of foreign make; or

(*b*) on the dial and also on the top or bottom plate of the movement, visible between the bridges, an indelible statement or indication that the watch is of Swiss origin.

7. All qualifying statements or indications must be distinct in equally conspicuous and indelible characters with, and in close proximity to, the marks they are intended to qualify.

8. Marks on samples or patterns, whether of British or foreign manufacture, are not required to be accompanied by any qualification provided such samples or patterns are valueless in themselves, do not form whole or complete articles, and can be readily distinguished as samples or patterns.



Section of Montreal's Modern Docking Facilities

Plans of Coming British Industries Fairs

These are Held in London, Birmingham and Glasgow, and are in Reality One Fair—They are not Exhibitions but Trades Fairs to which Admittance is Restricted to *bona fide* Trade Buyers who are Seriously Interested in the Participating Trades

(By the British Board of Trade)

THIS the first year of peace releases the British Industries Fair from the restrictions which the manufacture of munitions of war has imposed upon it. The British Industries Fair of 1920 and the fairs of the future will be on a scale commensurate with the magnitude of British industry. The knowledge that the country's first duty was to produce munitions led the Board of Trade to prohibit firms who were mainly engaged in the production of war requirements from exhibiting at trade fairs and practically confined the fairs to a few non-essential trades. The extent to which this policy was carried out is shown by the fact that even such articles as cutlery, electro-plate, clocks and jewellery have been excluded from the last four fairs. But to-day the position is changed, and the contemplated development is able to take place, with the result that it has been found necessary to provide as a home for the fair in London the Crystal Palace, the largest exhibition building in the world. And already there is grave doubt that this building—gigantic as it is—will prove too small unless special additions are made to it.

In Reality One Fair

The three fairs, though held in different towns (London, Birmingham and Glasgow), are in reality one fair. The London fair is directly organized by the Board of Trade, while the fairs in Birmingham and Glasgow are organized by the municipalities of the respective cities under the auspices and with the support of the Board. An important point in the organization of the three fairs is that they are held concurrently, each fair representing a specified group of industries, and no one industry being permitted to exhibit at two fairs.

The surest test of the success of the British Industries Fair during five years that it has now been in existence is the measure of the extent to which it continues to be supported by the exhibitors. Taken year by year, the number of exhibitors in each section or group of trades has steadily increased.

The following is the schedule of exhibits at the three fairs:

London

Organized by the Board of Trade. Address: Director, 10 Basinghall Street, London, E.C.

Cutlery.
Silver and electro-plate.
Jewellery, watches and clocks.
Imitation Jewellery, including hard haberdashery articles.
Glassware of all descriptions.
China and earthenware.
Paper, stationery and stationers' sundries.
Printing.
Fancy goods, including travelling requisites and tobacconists' sundries.
Leather for the fancy goods, bookbinding and upholstery trades.
Brushes.
Toys and sports goods.
Scientific instruments.
Optical goods and spectacle ware.
Photographic appliances and requisites.
Drugs and druggists' sundries.
Musical instruments.
Furniture (knock down for export).
Art needlework requisites.

Birmingham

Organized by the Birmingham Municipality and Chamber of Commerce, with the support and under the auspices of the Board of Trade. Address: Secretary, the Chamber of Commerce, 95 New Street, Birmingham.

Lighting fittings for electricity, gas, oil, etc.
Cooking stoves and utensils, including aluminium, enamelware, etc.
General hardware, including builders', marine and household ironmongery of all descriptions.
Tools (hand) of all descriptions and small machine tools.
Metal furniture for house, shop, office, garden and camp use, including bedsteads.
Perambulators, mailcarts and push-chairs.
Nautical instruments.
Firearms.
Fishing rods and tackle.
Machinery belting of all kinds.
India-rubber goods for industrial and household purposes.
Motor cycles and cycles.
Accessories for motor cars, cycles and aeroplanes.
Weighing and measuring appliances and instruments.
Sanitary appliances.
Paints, colors, and varnishes and painters' requisites.
Tubes in copper, lead, brass and steel, and pipe fittings.
Architectural and ornamental metal work, including gates and fencing.
Ropes of steel and hemp, cordage and string.

Glasgow

Organized by the Corporation of the City of Glasgow, with the support and under the auspices of the Board of Trade. Address: General Manager, Kelvin Hall of Industry, Glasgow.

Textiles of all descriptions.
Readymade clothing, including hosiery.
Hats and caps.
Boots, shoes and gloves.
Carpet and upholstery materials.
Foodstuffs (prepared and preserved) and beverages.
Chemicals (light and heavy).

What the Fairs Have Already Accomplished

The British Industries Fairs are not exhibitions. They are trade fairs to which admittance is restricted to *bona-fide* trade buyers seriously interested in the participating trades, and admission is by invitation only. Participation in the fair is confined to British manufacturing firms, which shall be deemed in this instance to be firms whose principal works and head offices are situated within the British Empire and which are not controlled by foreign interests. Exhibitors are not permitted to exhibit goods other than those they actually manufacture. The result is that buyers who visit the fair know that no article shown on an exhibitor's stand can be purchased elsewhere in the fair, while the exhibitors on their side can rely on the fact that all visitors are trade buyers. So organized, the British Industries Fair is immeasurably more valuable to both exhibitors and buyers than a fair in which the same article may be shown upon many exhibitors' stands and where the visitor may spend much of his time in comparing the different prices at which it can be purchased. By excluding the general public and restricting admission to trade buyers the exhibiting manufacturer is saved the great waste of time in which he would be involved by exhibiting and explaining his wares to persons who had no other motive

for visiting the fair than that of curiosity. In these two particulars the organization of the British Industries Fair shows a great advance upon other fairs.

Another point in which the British Industries Fairs are an advance on the fairs which have been organized in various towns on the continent is that participation in the fairs is restricted to manufacturers of goods which are really suitable for inclusion. At some of the fairs which have been held on the continent such articles as railway engines, big guns and other products of engineering works have been exhibited, although it is clear that they are not articles which are purchased by the trade buyer in quantity for stock and re-sale. An examination of the schedule of the trades included in the British Industries Fair, 1920, will at once show that participation is confined to goods which are such as would be purchased for re-sale by wholesale and retail traders.

How to Participate

For manufacturers, participation is both cheap and simple, since, although the fairs are financially self-supporting, the making of a profit is not aimed at by the Board of Trade, and because, so far as possible, each exhibitor is allowed to exhibit in the form he prefers. At no other fair can an exhibitor place his samples before the world's buyers for so trivial a sum as at the British Industries Fair. Many exhibitors on small stands measuring 6 feet by 6 feet have been able to display their samples for a total sum of less than £10, and many exhibitors have found that their total expenses did not amount to 1 per cent. on the orders which they booked. In one case which has come to the department's knowledge an exhibitor's total expenditure was less than one half per cent.

The erection of their stands being left to the exhibitors, each exhibitor is able to erect the stand most suitable to his requirements. Should he wish to do so, he can erect an expensive office. Equally, should he so wish, he is at liberty to erect the simplest possible stand. At the same time, however, the department is prepared in the future, as it has been in the past, to place the orders for exhibitors' stands as part of a scheme by which simple but serviceable stands can be erected at the lowest possible cost.

The new London home of the British Industries Fair is the largest exhibition building in the world, and it is difficult to convey any adequate idea of its vastness. So large is it that the figures which represent its dimensions serve to confuse rather than to explain.

The enormous extent of its total floor area can, however, be understood from the fact that it amounts to approximately 20 acres, of which 14 acres are upon the ground floor.

Practically every part of the building has direct overhead light, and no less than 25 acres of glass are employed to achieve this result.

To heat the vast building there are over fifty miles of hot-water pipes, and the water travels one and three-quarter miles after leaving the boiler before completing its circuit.

The main building alone is over 1,600 feet in length, a measurement which can be gauged by comparison with the length of St. Paul's Cathedral, which is 500 feet.

This visitor in walking from one extreme end of the building to the other covers a distance of over half a mile.

The great columns which support the domed roof measure no less than sixteen miles in total length.

In the centre transept the glass roof is 200 feet above the ground, and the height of the building throughout its length is 100 feet.

Hints for Intending Exhibitors

Applications for space will be received up to a date which will be stated on the application form, and only applications received before that date will be considered.

As in the Fairs which have already been held, exhibitors will not be able to select the position of their stands, the allotments of space being made by the department. All exhibitors in the same section will, however, be grouped together, so ensuring that the positions allotted to competing firms are as nearly as possible of equal value. The actual ground plan of the Fair will not even be drawn up until all applications have been received, as it has been found that the space can be much more advantageously split up to suit the various exhibitors' requirements than exhibitors' applications can be fitted into a pre-arranged scheme.

As soon as possible after the closing date for the receipt of applications for space a plan showing the site which has been allotted to him will be forwarded to each exhibitor, who should at once make the necessary arrangements for the erection of his stand. In order to interfere as little as possible with the various exhibitors' ways of displaying their goods, exhibitors are allowed to make use of the services of any stand contractor they choose, subject only to the approval of the department.

To assist exhibitors who are unable or unwilling to undertake the work of ordering their own stands, the department will arrange, as they have done at past Fairs, for the erection of simple stands of uniform design and at a uniform price, and will place orders for such stands on behalf of any exhibitors who authorize them to do so.

Assistance is given to exhibitors in other directions, and participation in the British Industries Fair becomes, as stated, an exceedingly simple matter.

The department assists in the transport of exhibitors' goods and samples to the Fair by securing for them reduced railway carriage and by their handling, without extra charge, within the Fair. On delivery by the railways and carriers exhibits are received by the department and are placed on the site allotted. Directly the exhibitor has unpacked his samples, his empty packing cases are removed, stored during the period of the exhibition, and returned to him by the department at its close.

All invitations to visit the Fair are issued by the department, and exhibitors are consequently saved the trouble and expense of sending cards of admission to their customers.

Where to Apply for Space

Canadian Manufacturers who may be desirous of participating in these trade fairs through the medium of exhibits of their goods are advised that application must be made through H.M. Trade Commissioners. The addresses of those in Canada are as follows:---

The Senior British Trade Commissioner in Canada and Newfoundland, 367 Beaver Hall Square, Montreal.

The British Trade Commissioner (for Ontario), 257-260 Confederation Life Building, Toronto.

The British Trade Commissioner (for the Prairie Provinces and British Columbia), 610 Electric Railway Chambers, Winnipeg.

Under the old system, by which a fixed number of tickets were given to each exhibitor for issue to his customers, it was found that the principal trade buyers received an invitation from practically every exhibitor and that other would-be buyers received no invitations at all. Under the present system exhibitors are invited to forward to the department the names of any buyers they would wish to be invited, and the names they forward, which are not already included in the department's card indexes of buyers, are at once added and invitations issued to them. As the index already contains over 100,000 names, it is but rarely that an exhibitor submits the name of a buyer not already included.

A Joint Committee of Management and Workmen

PLAN OF ROBB ENGINEERING WORKS, LIMITED

A DEVELOPMENT, the working out of which will be watched with much interest by other manufacturers, has taken place at Amherst, N.S., where the Robb Engineering Works, Limited, have created a permanent joint committee of management and workmen. The scope and purpose of the committee is clearly set out in the constitution and by-laws which were adopted on July 9. These are as follows:—

CONSTITUTION

1. Membership

The membership of Robb Engineering Works' Joint Committee shall consist of a number of members appointed by the workmen of the Robb Engineering Works, Limited, and an equal number of members appointed by the management.

2. Objects

(a) That the workmen in the Robb Engineering Works be given a wider interest in, and a greater responsibility for the conditions under which their work is performed.

(b) The settlement of general principles governing the conditions of employment, including the methods of paying and re-adjusting wages, having regard to the need for securing to the workmen a share in the increased prosperity of the industry.

(c) The establishment of regular methods of settling differences between employers and workmen and to their better adjustment when they appear.

(d) Better utilization of the practical knowledge and experience of the workmen.

(e) Improvements of processes, machinery and organization.

(f) Technical education and training.

(g) Consideration of sanitary conditions, and the study of comfort for workmen.

(h) The institution of Safety Committees for the introduction of safety devices and methods.

(i) Robb Engineering Works, Relief Society Organization.

It is understood that the engaging or discharging of men, the setting of rates of wages, hours of labor, overtime, etc., will be arranged between the superintendents, foremen and workmen as at present. These matters may be discussed informally by the Joint Committee at regular meetings, and committees appointed to investigate and report on best methods of settlement, as referred to in the above clauses (b) and (c), but the settlement of wages, hours of labor, etc., must be directly between the workmen and foremen, superintendents and management.

3. Members

The members of the Joint Committee to be appointed by the workmen of the Robb Engineering Works, Limited, shall be as follows:

One member each from the (1) Engine Department; (2) Tractor or Light Machine Department; (3) No. 2 Machine Department; (4) Tool Department; (5) Pattern Shop; (6) Blacksmith's Shop; (7) Yard Department; (8) Stores; (9) Office; (10) Draughting Department; (11-12) two members from Foundry; and (13-14) two members from Boiler Shop.

The members to be appointed by the management to consist of:

The General Manager; (1) Chief Engineer; (2) General Superintendent of Foundry and Machine Shop; (3) Superintendent of Boiler Shop; Foremen of each of the following Departments; (4) Engine Department; (5) Tractor or Light Machine Department; (6) No. 2 Repair Machine Shop; (7) Tool Department; (8) Foundry; (9) Pattern Shop; (10) Blacksmith's Shop; (11) Yard; (12) Superintendent of Stores; (13) Chief Accountant; and (14) Chief Draughtsman.

In case of the unavoidable absence of any member of the Joint Committee, a substitute for any member representing the management may be appointed by the superintendent or foreman of any department, or by the workmen of any section for a member who is absent in their section.

Members of the Works Committee shall be elected for a term of six months, the elections to be held on or before the 15th of January and 15th of July in each year. Members are eligible for re-election. A list of the members elected shall be furnished to the management through the secretary.

4. Election of Members

Election of members to Joint Committee to be either by ballot or by majority vote at a meeting of each section of the works, as specified in clause 3.

5. Officers

The officers shall consist of Chairman, Vice-Chairman and Secretary. A permanent Secretary shall be appointed by the Committee each year at the first meeting in January, who shall keep all the records of meetings and other business transacted and shall receive therefor a salary of $5.00 per month, to be paid by the Robb Engineering Works, Ltd.

It is understood that the General Manager will be the permanent Chairman, and Chief Engineer the Vice-Chairman in the absence of the Chairman of the Joint Committee.

6. Voting

The General Manager shall not vote except in case of a tie. It is understood that the majority vote of the members present at any meeting, shall be binding on the management and workmen, unless by request of any member the voting may be postponed to a special meeting to be called for that purpose, due notice of the object and date of the meeting to be given at least one week in advance.

Any motion passed by open vote or ballot at a regular meeting of the Joint Committee may be rescinded and a new vote taken at a special meeting called for that purpose, by request in writing of ten members of the Joint Committee, presented to the Chairman.

Any question arising which affects any one Department, may be dealt with by the members of the Joint Committee representing that Department, together with an equal number of committee members appointed by the management.

7. The Vote

In case of a tie vote at any regular or special meeting of the Joint Committee, the Chairman shall decide the vote, but on request of any member of the Joint Committee, an independent person shall be selected, by the Chairman and one member of the Committee who shall be selected by the workmen, to give the casting vote.

8. Meetings

Regular meetings shall be held in the Robb Engineering Works' Firemen's Hall, on the second Wednesday of each month, at eight o'clock p.m.

9. Special Meetings

Special meetings may be called on the request of three members and must be called on the request of ten members in writing. Notice of any special meeting shall be given not less than three days in advance, and shall state the object of the meeting. No business except that called for in the notice shall be transacted at a special meeting.

10. Quorum

Not less than ten members, exclusive of the Chairman, shall constitute a quorum, and shall consist of not less than five members representing the management and five members representing the workmen.

11. Amendments to By-laws

Amendments may be made in the By-laws, Constitutions and Objects of the Joint Committee of the Robb Engineering Works, by notice in writing given at a previous meeting and by two thirds vote at any regular meeting or special meeting called for that purpose.

12. Order of Business

Reading of Minutes.
Objects of Joint Committee as set forth in Clause 2.
General Business.

13. Minutes

The minutes of every meeting shall be read by the Secretary and approved at the succeeding meeting. The minutes shall be open to inspection of any member at any time on request to the Secretary.

14. Vacancy

Any vacancy occurring by reason of a member leaving the works, or by vote of employees in his section of the Works, shall be replaced by ballot or vote of employees in the section to which the member belongs.

15. Meetings of Section

Meetings of any section of the Works may be held in the Firemen's Hall of the Works, at any time appointed by said section.

Well-Rounded Scheme of Industrial Benefits

Features of the Plan of Welfare Work to be Inaugurated by the Dominion Chain Co., Limited—An Employees' Society Formed for Membership in which Every Worker in Office and Factory is Eligible—Benefits of Membership Take in a Wide Range of Services



By J. R. HAMILTON

IN what is declared by experts to be one of the most comprehensive plans of insurance and benefits yet worked out in any Canadian or American industrial concern, employees of both factory and office of the Dominion Chain Company, Limited, Niagara Falls, Ont., have been given the outline of an organization in which it is proposed that they and the company shall join to carry out the following programme:

1. Sick benefits.
2. Death benefits, graded according to number of dependents and length of service.
3. Funeral expenses.
4. Allowance to old employees who are disabled.
5. Guaranteed competence in old age.
6. Birth benefits.
7. Annual vacations with pay.
8. Free legal advice.

The organization which is to have the complete administration of these insurance, endowment and welfare features is to be called the Acco Employees' Society, and formation of it is already under way. Every worker in the Dominion Chain Company, Limited, both in factory and office, is eligible.

The object of the plan is to protect the employees of the company not only against those accidents and liabilities for which ordinary insurance is obtainable, but at the same time to provide for other contingencies for which insurance cannot be purchased.

Members of the Acco Employees' Society will pay an initiation fee of $1.00 and dues of 50 cents per month. The entire difference between this income and the expenses of the society is to be met by the Dominion Chain Company, Limited. The affairs of the society are to be administered entirely by its members, and they are to judge the merits of every case or claim coming up for action. The company is represented through the secretary-treasurer of the society, but the members or board of managers determine not only the time, form and amount of all payments under the regular cases provided for in the rules, but also have the authority to recommend special payments for extraordinary occasions or exceptions to the established rules.

While one or more of the benefits worked out in the Acco plan have been tried in various Canadian and American industrial institutions, so far as is known the present undertaking is more complete than any that has gone before it. Officials of the company have been at work on the plan for many months, during which time they have advised with insurance actuaries, health and welfare workers, administrators of fraternal and group insurance plans, and have consulted all available sources that would disclose the best American practise and experience.

The result of these investigations has not only led the Company to go farther than any predecessor in working out a complete programme of protection, but also has resulted in the Company's assuming the risk itself by the setting aside of sufficient reserve funds. There is no outside insurance company concerned in the Acco plan in any way, but, on the contrary, it is 100 per cent. a matter between the Company and its workers.

The men were invited to suggest improvements and alterations in the outlines and a number of these suggestions have been written into the plan.

One of the innovations in the Acco plan, which it is felt will attract a great deal of attention throughout Canada and the United States of America, is the extension of an annual vacation with pay to all employees of the Company. In most concerns this privilege is reserved for office workers and executive staff, the rest of the factory being considered on a "time" basis. Under the Acco plan all members of the society are to be put on the vacation basis, this being part of the programme not only of insurance against ill health, but of positive steps to protect and build up health.

Along the same line the Company will work out a vacation bureau to guide and help its employees in the matter of getting the most out of their vacations, finding the most satisfactory resort, making the most advantageous arrangements for travel, and, in general, placing at their disposal the services of an expert vacation bureau. There will be this difference from the ordinary, however, that it will work solely for the benefit of the vacationer and not to promote railroad or steamship line or pleasure resort.

Along the same line it is the purpose of the Company to employ a graduate nurse, who will be at the service of every member of the society for advice and assistance on medical and health matters, and who will make a specialty of health service in the homes.

The Acco Plan at a Glance

Open to all workers, factory and office, of the Dominion Chain Company, Limited.

Administered by the employees through Acco Employees' Society, with nominal dues.

Affords the worker health insurance ranging in protection from twelve weeks' payments to fifty-two weeks' payments according to length of service with company.

Pays cash benefit of $25 for birth in the family, together with all necessary attendance of doctor and nurse.

In event of death pays cash benefit of $100 for funeral.

In event of death, pays insurance benefit ranging from $1,000 to $5,000, according to length of service and number of dependents.

Guarantees annual vacation with pay, with services of expert vacation bureau.

Protects worker who becomes permanently disabled.

Guarantees competence in old age through paid reserve force.

Affords free legal advice.

All payments guaranteed by the Dominion Chain Company, Limited, through Acco Employees' Society without any outside insurance company or other intermediary.

Another feature of the Acco plan that is bound to attract great attention is the provision for birth benefits. It is a peculiar coincidence that while such a plan was actually being worked out in practise by the Dominion Chain Company, the Peace Conference in Paris was recommending the study of this subject as an important social institution for the benefit of the world, and such a recommendation is included in the Peace Treaty.

The Acco plan provides a two-weeks' advance attendance of doctor and nurse upon the expectant mother, followed by a similar attendance as long as may be necessary after the birth. While the doctor and nurse will be in the Company employ, arrangements will be made with a number of doctors and nurses in Niagara Falls and vicinity, so as to afford the parents a range of choice.

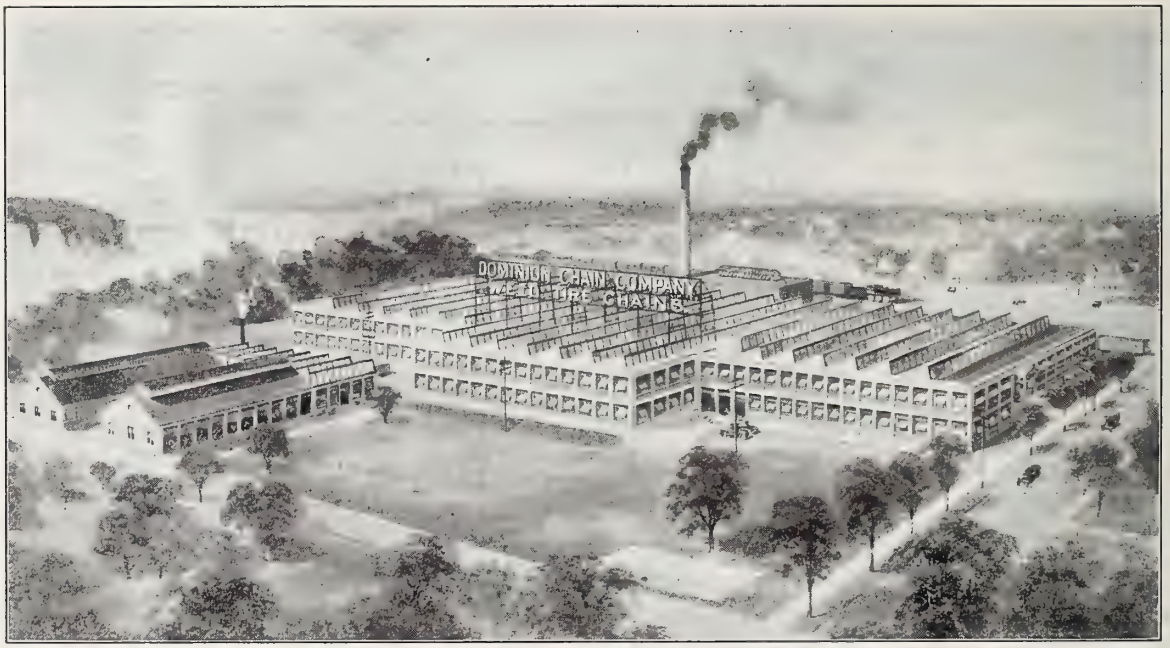
In addition to this medical service, a cash payment of $25 accompanies each birth, to provide the necessary clothes for the baby and to meet other expenses incidental to such occasions.

While the Workmen's Compensation Act in this country and the United States safeguards the worker against the accidents of his trade, he has no protection but his own against sickness, and it is to relieve this situation that the sick benefit feature of the Acco plan has been worked out.

Under this plan every member of the society is entitled to payment of a sick benefit of $2.00 a working day, beginning on the fourth day of his illness. The extent to which this payment continues is dependent upon the length of time in which the patient has been in the employ of the Dominion Chain Company, Limited. A person who has just entered the service of the Company is paid the benefit during the time of his sickness up to a period of twelve weeks. A person one year in the service of the Company can get a maximum sick benefit of sixteen weeks' payment, and so on up to the employee who has been ten years in the service of the Company and is entitled to sick benefit up to fifty-two weeks, or a full year.

In cases where the sick benefit and the Workmen's Compensation Act come into operation together, both payments are not made, but the patient gets whichever payment would be the larger. The laws of the society provide for a visiting committee to keep up the friendly touch with the sick ones who are cut off from their friends and fellow-workers, and the society itself determines the extent and duration of the sick benefit claims.

Death of a member of the Acco Employees' Society brings two insurances into operation. One is an immediate payment of $100 for a proper funeral. This payment operates without regard to the length of time a person has been in the Company's service. The other payment is a life insurance policy, ranging in size both according to the number of dependents and the length of service of the employee, while the manner of the payment, whether in a lump sum or in instalments, is to be determined by the society itself, according to the problems involved in each case.



Plant of the Dominion Chain Company, Limited

At which the Acco Plan of Benefits is being introduced. The officers of the company are: W. B. Lashar, President, Bridgeport, Conn.; W. P. Kearney, Vice-President and Secretary, Montreal, Can.; W. T. Morris, General Manager, Brooklyn, N.Y.; E. P. Grobb, Sales Manager, Niagara Falls, Can.

In the case of a married man, who has been working for the Company one year or less, there is a payment of $1,000 to the widow and $200 for each child or dependent brother and sister, or $500 for a dependent father or mother.

In case of longer service in the Company, the payment for each dependent child, brother or sister is the same, but the payment to the widow, or to the dependent father or mother, is graded upward in proportion to the length of service. A person in the service of the Company five years would leave a death benefit of $1,500, payable to his widow, and $750 for a dependent father or mother, plus $200 each for any child or dependent brother or sister.

The limit of the life insurance is reached in the case of an employee ten years or more in the service, who would leave an estate of $2,000 to the widow, $1,000 each to a

dependent father or mother, plus the usual allowances for the other dependents. Or if there were no dependents at all, there would be a payment of $500 for the nearest relatives.

Terror of an old age of poverty, neglect or want is entirely removed by the Acco plan, which carries two provisions for this end.

Every member of the Acco Society who has been ten years or more in the service of the Company thereby creates for himself an insurance policy, which the Company underwrites, against permanent disability. In the case of such disability the Company undertakes to make proper provision for the disabled person, basing such provision on the needs in each individual case and the recommendations of the Board of Managers.

A Reserve Force

For persons who have been in the employ of the Company for a period of twenty years or more, and have reached (in the case of a man), the age of 65, or (in the case of a woman), the age of 55, a Reserve Force is created, and they will be paid for service on such a force; whether service is required or not. They may be called upon for such light duties as are congenial and suitable.

Pay on the Reserve Force depends upon the length of service with the Company, and upon the highest earnings received in any ten-year period. The basis having been reached by averaging the highest ten years' earnings, 1½ per cent. of this amount is paid for each year of service. Thus, a person twenty years in the employ of the Company would command, on the Reserve Force, 30 per cent. of his highest earnings with the Company; if thirty years with the Company, he would receive 45 per cent. of his highest earnings.

The final provision which goes with membership in the Acco Employees' Association—free legal advice—is self-explanatory. This is extended, at the Company's expense, not only to the member but to his family. The Company does not assume the expense of actions at law, but where such actions are found necessary for the protection of the member, their expense will be kept to a minimum.

Draft of a charter and by-laws for the Acco Employees' Society has been drawn up by the Company, closely following the standard charter and by-laws suitable for any well managed sick and death benefit society, with slight modifications to suit the special case. Active direction of the Society's affairs will be in the hands of a board of managers of seven men, comprised of three executive officers—Chairman, Vice-Chairman and Secretary-Treasurer—and four nominated from the four; the secretary-treasurer and two members of the board of managers are nominated by the Company. Only members of the society in good standing can participate in its benefits or hold office.

Membership in the Acco Employees' Society at the outset is open to every employee of the office or factory.

After the charter period of one month, members subsequently admitted will be obliged to first pass a simple physical examination, expense of which will be borne entirely by the factory. The charter members are not required to pass this examination.

Canada's New Minister of Finance

A Brief Appreciation of Sir Henry Drayton

INDUSTRIAL CANADA congratulates Sir Henry Drayton on his appointment to the highly responsible position of Minister of Finance of the Dominion of Canada. As Chairman of the Board of Railway Commissioners, Sir Henry was brought into close contact with the business life of the country. He discharged the duties of the office ably and well, and those who have had to do with him in his capacity as chief of the Railway Board are confident that equal success will attend his administration of the Dominion Treasury.

An indefatigable worker of unimpeachable integrity, Sir Henry, while still a comparatively young man, has to his credit an enviable record in the service of the public. His first public position was that of assistant city solicitor of Toronto. Later he became Crown Attorney. In 1910 he accepted the appointment of corporation counsel, while the following year he was named as Toronto's representative on the Hydro-Electric Power Commission. On July 1, 1912, he resigned these positions to become Chairman of the Railway Commission.

As head of the Railway Board, Sir Henry acquired an intimate knowledge of the transportation problems of the Dominion which will be of inestimable value to his colleagues when transportation questions engage the attention of Council. His knowledge in this regard was further extended by acting on the Railway Inquiry Commission, whose findings are usually spoken of as the "Drayton-Acworth Report," and which deals with transportation necessities, the mistakes of the past in this connection, and the best means of rectifying them. The investigation required months of ceaseless toil and study, and the report is the most lucid and reliable work on this important subject. In these days, when public service is so often jeeringly referred to, and when pessimists claim that each man labors only for what he can gain thereby, it is worthy of note that Sir Henry Drayton returned to the Government the $15,000 offered him for his services in this connection, preferring that his efforts be looked upon merely as his contribution to the public good.

Another example of the services which the new Minister of Finance has rendered gratis to his country is his evidence before the Imperial Royal Commission investigating Shipping Combines. At the present time, when an extension of our ocean shipping facilities is so necessary to carry our agricultural and manufactured products to their ultimate markets overseas, his knowledge on this subject will be of immense value to the Government and to the Dominion.

Perhaps the greatest, though least recognized, service which Sir Henry has performed was in averting a coal famine during the war. The carrying capacity of the American roads was taxed to the limit in transporting their soldiers, munitions, and food supplies, to Atlantic ports, with the result that rolling stock was not available to bring from the South the coal required in Canada. By virtue of his position as Chairman of the Railway Commission, or possibly more by virtue of his pleasing personality and close acquaintance with the presidents and general managers of the United States railways, Sir Henry was able to make arrangements for the rushing of coal from the mouth of the mine to the furnace of the consumer, averting what might have been a very serious situation.

To Sir Henry every serious situation is merely a condition to overcome, and, to one of his tireless and fearless energy, no difficulty is unsurmountable. The financing of Canada at the present time is a big problem and it is in the hands of a big man.

State of the American Woolen Industry

A Comprehensive Survey of the Woolen Industry not only of the United States but of the World—It is valuable in that it shows the Extent of the Wool Supply and the Present State of the Industry, with a Forecast of Future Conditions

By E. M. M.

In the "Commerce Monthly" of the National Bank of Commerce, New York

THE woolen industry of the United States during the last four years has consumed one-quarter of the total raw wool produced in the world. A special census, undertaken by the Department of Commerce, as of July 20, 1918, shows the following consumption of wool in the grease:

1915	615,913,757 lbs.
1916	725,391,207 "
1917	768,272,175 "

The 1918 consumption, as reported by the Bureau of Markets of the Department of Agriculture, was the equivalent of 740,000,000 lbs. in the grease. During the five-year period immediately preceding the war our average annual consumption was roughly 510,000,000 lbs. The effect of the war in increasing our use of raw wool is manifest.

The United States produced less than half the amount of wool it used during the war, being forced to import the rest from other countries. The domestic clip has varied very little in thirty years, maintaining an almost constant level of about 300,000,000 lbs. The 1918 clip was 299,921,000 lbs. Our imports, though fluctuating more or less, have undergone a gradual increase to an annual average of nearly 400,000,000 lbs for the four war years. During the five years preceding the war they averaged a little over 200,000,000 lbs.

At the present time wool stocks in the hands of dealers and manufacturers are low. The actual weights of grease, scoured and pulled wool, and of tops and noils held by dealers and manufacturers on recent dates were as follows:

December 31, 1917	453,048,586 lbs.
September 30, 1918	398,630,260 "
December 31, 1918	211,442,746 "

On December 28, 1918, total Government stocks of wool were reported to be 313,746,502 lbs., with about 70,000,000 lbs. in dealers' hands not yet billed to the Government. By adding to these amounts the stocks of wools held by manufacturers, Mr. Brand, Chief of the Bureau of Markets, estimates total stocks of grease, scoured and pulled wools in the country on December 31, 1918, at 461,397,423 lbs. If we add to this amount 300,000,000 lbs. as the probable amount of the 1919 clip, we arrive at 760,000,000 lbs. as our total supply for the coming year, not counting what we import.

With the resumption of more normal conditions in Europe, it is likely that our own woolen industry during 1919 will consume raw wool more nearly at a pre-war rate than at the rate of consumption during the war years. Hence, with imports conservatively estimated at from 200,000,000 to 300,000,000 lbs. during the year, there will probably be sufficient wool to supply the needs of our manufacturers and leave plentiful stocks on hand to begin the year 1920.

The special census of July 20, 1918, referred to above, shows that there has been a considerable increase since 1909 in practically all kinds of wool machinery. It also makes a detailed comparison of woolen and worsted products for the three years 1915, 1916 and 1917, indicating in almost every case an increase in output between 1915 and 1917. The principal woolen manufactures of the United States are yarns, woolen and worsted goods, carpets and rugs, and hosiery and knit goods. More than 600,000,000 lbs. of yarns were produced in each of the three years specified. More than 200,000,000 linear yards on an average of woolen or mixed woolen goods were produced in these years, and more than 250,000,000 linear yards of worsted or mixed worsted goods. Production of carpets and rugs varied between 60,000,000 and 75,000,000 linear yards. Large amounts of hosiery and knit goods were also produced.

As a result of the war not only our consumption of raw wool, but also our exports of woolen manufactures underwent a great increase. The demand of the Allied armies for clothing in 1915 and 1916 was very large. The following table shows how the war affected our exports:

Fiscal Year Ending June 30.	Exports of Wearing Apparel.	Total Exports of Woolen Manufactures.
5-year average, 1910-14	$1,871,448	$3,439,547
1915	9,108,900	27,327,451
1916	19,368,501	53,983,655
1917	8,748,722	18,423,556
1918	3,301,125	17,749,421
1919 (1st 6 months)	2,612,365	9,617,169

The great increase in 1915 and 1916 of our exports, both of woolen wearing apparel and of total woolen manufactures, is clearly shown. But in 1917 and 1918 exports fell off from the high figures of the first two years of war and the rate has not increased during the first half of the fiscal year 1919. Moreover, owing to the rise in prices during the war of wool and woolen manufactures, the figures for values do not reflect a proportional increase since pre-war years in the actual quantities of woolen exports.

Government Wool Control

After the United States declared war the wool industry was gradually taken over by the Government and became increasingly employed upon Government orders. The Government purchased domestic wool in the summer of 1917, but distributed none to manufacturers. In the spring of 1918 the Wool Administration was created. It purchased the 1918 domestic clip at prices 5 per cent. below those of June 30, 1917. Stocks of Australasian wool were secured by negotiation with the British Government. South American and South African wools were purchased during the summer of 1918 by a syndicate representing the United States Government, private importations having been forbidden in June. In September a Government buying commission was sent to Buenos Ayres, but had been in operation only a few weeks when the armistice was signed.

The end of hostilities caused an abrupt termination of further Government orders to manufacturers. The wool manufacturing industry came temporarily to a standstill on account of the cessation of demand from the Government,

uncertainty in the civilian wool trade, and lack of a free market for raw wool.

In the latter part of December, the Government began to dispose of its stocks by means of public auctions. Although the first few series of sales witnessed the withdrawal of a large percentage of offerings, the market has since stiffened considerably. On January 10 import restrictions were taken off raw wool, with the result that South African and South American wool may now be brought in freely by private importers. At present, however, the attitude of the British Government is against our being allowed to buy wool at the London auctions which began early in April. The United States Government has announced that it will suspend wool auctions for four months, beginning next July, in order not to compete with the new domestic clip. Enough wool has been sold at auction to allow the resumption of open trading on the Boston wool market, through diversion to the market of wool bought at the auction sales.

World's Wool Consumption

To understand properly the position of wool and the woolen industry in the United States, it is necessary to consider it in its relation to the wool production and consumption of the world. First of all, we must know how many sheep there are in the world and what countries have them. Statistics on this subject are unsatisfactory. The estimate for 1918 of the number of sheep in the world is 592,000,000. The figures as compiled indicate a gradual decrease since 1915, when the total number estimated was 634,000,000. The general average during the period from 1910 to date has been somewhere between 600,000,000 and 650,000,000. According to the latest compilations, Australasia is first with 103,000,000 sheep, Argentina second with 56,000,000, and the United States third with 49,000,000. Russia-in-Europe, South Africa and British India are next in order.

The world's wool clip has varied very little during the last ten years, averaging between 2,800,000,000 and 2,900,000,000 lbs., although the statistics here, as in the case of the number of sheep in the world, are rather meagre. The most recent figures place it at 2,809,000,000 lbs. Australasia, owning the most sheep, produces the most wool, the combined Australian and New Zealand clip amounting to 742,000,000 lbs., or two and a half times the clip in this country. Russia-in-Europe is reported as producing 320,000,000 lbs., but the figures are neither recent nor very accurate. As we have seen, the United States clip amounts to 300,000,000 lbs. Argentina, although reported to own more sheep than either Russia or the United States, produces only 258,000,000 lbs.

Government Control in England

The annual production of 2,800,000,000 lbs. of wool in the years before the war consisted of 1,000,000,000 lbs. of crossbred worsted wools, 1,000,000,000 lbs. of merino wool, and about 800,000,000 lbs. of coarse or carpet wools. In Australasia, the principal source of fine wools, there has been a tendency to change from the merino to the crossbred type, resulting in decreasing the supply of high-class clothing wools.

The principal wool consuming countries of the world are the United Kingdom and the United States. Before the war France and Germany were also important. The 1914 consumption was 515,000,000 lbs. in the United Kingdom and 505,000,000 lbs. in the United States. France was third, with 480,000,000 lbs., and Germany fourth, with 400,000,000 lbs. Austria, Hungary and Italy came next, but consumed little wool in comparison with the first four countries named.

The United Kingdom's woolen industry has been controlled during the war almost entirely by the Government, and has been devoted principally to supplying the needs of the British and Allied armies. It is estimated that 70 to 80 per cent. has been used for Government purposes.

The wool trade of France was thrown into confusion by the war. The principal wool manufacturing towns were in the invaded districts of northeastern France. At the present time, however, the textile industry is trying to get on its feet again. Manufacturers are preparing against the time when they may again be able to operate.

The Belgian textile industry was completely prostrated by the war. It will be years before it regains its former status, although like France, Belgium is preparing for a resumption of activity. Both France and Belgium have begun to purchase raw wools at the recently opened London auctions.

We know little about the German woolen industry except that during the war it has been cut off almost entirely from outside supplies of clothing wools, aside from what it stole in France and Belgium. Previous to the war the British Empire controlled the wool situation in all except low or carpet wools. Although Germany produces clothing wools herself, notably the fine wools of Saxony, they are not nearly enough to meet her requirements.

Great Britain

Great Britain is the only country whose woolen industry will be likely to compete with ours in the immediate future. Recent statistics are available regarding the amount of certain kinds of woolen textile machinery in the United Kingdom. A comparison with the 1918 census of textile machinery in the United States shows the equipment of the United Kingdom to be the more extensive.

	United States.	United Kingdom.
Woolen and worsted looms	76,585	121,551
Spindles—Woolen	2,705,625	3,066,047
Spindles—Worsted*	3,078,958	3,459,181
Combs	2,347	2,934

*Includes twisting spindles.

During the years preceding the war, the United Kingdom's consumption of wool was a little greater than ours. Her excess of imports over exports of other than domestic wool averaged 470,000,000 lbs. Her domestic clip averaged approximately 140,000,000 lbs., of which she exported about 70,000,000 lbs., or half. Her average consumption was consequently about 540,000,000 lbs. during the period 1909 to 1913. Our own consumption during approximately the same period, July 1, 1909, to June 20, 1914, averaged 510,000,000 lbs.

A comparison of the British export market for manufactured woolen goods with our own during pre-war years indicates that our export business had hardly made a beginning, although our mills consumed nearly as much raw wool as those of the United Kingdom. The average annual value of exports of woolen manufactures from this country during the five-year period ending June 30, 1914, was $3,500,000. During the five-year period ending December 1, 1913, the United Kingdom exported wool manufactures with an average annual value of £36,000,000, or $175,000,000. In other words, previous to the war the United Kingdom exported woolen goods worth fifty times those exported by the United States.

The British woolen industry is now in a state of stagnation, although Government control is being rapidly relaxed. The only Government wool purchase this year will be the Australasian clip; both the domestic and South African clips will be sold on the open market. All restrictions have been removed on the sale of wool and tops, and wool rationing

ended on March 31. Raw materials may now be imported freely.

The London auctions, which for so many years have held an important international position in the wool trade, were resumed early in April. Issue of wool at fixed prices outside the auctions will continue; general wool prices will be stabilized by altering these issue prices from time to time to accord with market appraisement as indicated by the auction prices. The first change in issue prices, in preparation for the auctions, was a reduction of 7½ per cent., taking effect April 1.

An interesting development in the British woolen industry is the recent establishment of a National Wool Textile Industrial Council, with an equal representation of employers and employees. This Council will devote itself to settling disputes and to a consideration of questions of wages, hours of labor, working conditions, and supervision of entry into and training of employees for the industry. It will make comparative studies of the woolen industry in various countries.

Half Our Machinery Idle

At the present time the woolen industry of the United States is operating on a restricted basis. Many mills are temporarily closed and a great many more are operating only at part capacity. The best index of the activity of the mills is the percentage of machinery in operation, or, inversely, of idle machinery.

The following table compares percentages of idleness of all kinds of woolen machinery on March 1, 1918, when activity was at its greatest; on December 2, 1918, shortly after the armistice was signed, and on March 1 of this year.

Kind of Machine	Percentage of Idle Machinery to Total Reported Mar. 1, 1918	Dec. 2, 1918	Mar. 1, 1919
Looms — Wider than 50 in. reed space.	8.2	22.5	58.1
Looms — Under 50 in. reed space	8.0	24.9	42.4
Looms — Carpets and rugs	31.0	58.0	61.4
Cards	4.6	13.8	39.1
Combs	8.3	17.8	47.8
Spinning spindles — Woolen	5.5	16.1	41.8
Spinning spindles — Worsted	12.7	27.4	52.7

The most striking thing is the sudden jump in percentage of idleness since last December. Summarizing the present condition, we find on March 1 of this year that practically half of the country's wool machinery was idle. This figure has never come anywhere near being reached before since the beginning in 1913 of tabulation of active and idle machinery.

Decrease in Government Orders

With the recent decrease in activity, there has come a corresponding decrease in the proportion of machines employed on Government orders, which had steadily risen while the United States was at war. The percentage on Government orders of every machinery group doubled or more than doubled between August 1, 1917, and October 1, 1918, with the result that on the latter date from one-half to three-quarters of all kinds of machinery in operation, with the exception of narrow cloth looms and carpet and rug looms, were running on Government orders. With the signing of the armistice the percentage diminished, until on March 1, 1919, less than 6 per cent. of any machinery group was engaged on Government orders.

The following table shows Government use of machinery from August, 1917, up to March of this year.

Kind of Machine	Percentage on Government Orders to Total in Operation* Aug. 1, 1917	Oct. 1, 1918	Mar. 1, 1919
Looms — Wider than 50 in. reed space.	28.6	56.9	4.2
Looms — Under 50 in. reed space	7.8	16.6	2.4
Looms — Carpets and rugs	....	19.2	.0
Cards	32.1	61.9	4.1
Combs	21.4	74.6	.4
Spinning spindles — Woolen	33.5	60.7	5.7
Spinning spindles — Worsted	26.5	58.1	.4

*Percentages for March 1, 1919, relate only to machines on single shift, but as the latter constitute almost the entire number of machines in operation, these figures are comparable to earlier figures.

From the idle state of wool machinery we should naturally expect decreased consumption of raw wool. The following table, comparing average monthly consumption in 1917 with consumption at various times in recent months, bears out this expectation. The figures represent grease equivalent, that is, the amount that the wool would weigh were it all in the original greasy condition in which it is removed from the sheep's back.

	Consumption
Monthly average, 1917	64,000,000 lbs.
February, 1918	63,700,000 "
October, 1918	60,133,392 "
February, 1919	27,500,000 "

A year ago February consumption was thus what may be regarded as normal for a war month. In October, the last full month before the armistice, it was still practically the same. But after that consumption of raw wool fell off steadily to 27,500,000 lbs. in February, 1919, the lowest figure ever recorded in the monthly reports of the Bureau of Markets.

Sale Prices Firm

Wool manufacturers are nearly unanimous in expecting no great activity until later in the year. However, recent auction sales have witnessed a keen demand for high-class wools. Although the Government, following the example of Great Britain, reduced its minimum prices 7½ per cent. in the latter part of March, the demand for fine wools had increased to a point where this reduction had practically no effect on the actual sales prices. These sales prices have continued firm at the latest auctions. In the case of inferior wools, the reduction of minimum prices has resulted in many cases in lowering the quotations.

Wool prices multiplied nearly three-fold during the war. The decrease since the armistice has not been great, in view of the sudden change in industrial conditions. Trade opinion differs as to the future of the price of raw wool, although a considerable section of the trade does not look forward to any immediate decrease. It is now pretty generally the belief of the trade that piece goods have reached bottom prices. Moreover, present stocks of piece goods are low. In view of this situation an early resumption of activity might be expected, were it not for other factors. It is claimed that the cash basis of the Government auctions has prevented small manufacturers from getting supplies. Labor troubles have tended recently to curtail the output of mills. Little decrease in the high wages now being paid is expected. A shortage of labor may result from the scattering of skilled workers owing to the shutting down of so many mills. However, once confidence is restored, most manufacturers expect great activity, for the civilian demand for clothing and other

woolen goods has been abnormally suppressed for a long time and is beginning to make itself felt.

As was remarked above, there will probably be plenty of wool to supply the needs of the industry for the coming year, 760,000,000 lbs. representing approximately the amount we can count on outside of our imports. With South Africa definitely declared a free market and with large amounts available in Argentina and Uruguay, we need have no fears about foreign supplies. Although the Australasian clip has been purchased by Great Britain, and American buyers excluded from the London auctions, the Government has already received 100,000 out of 325,000 bales of Australasian wool which it arranged last fall to purchase from Great Britain. If the remainder of this purchase is brought to the United States, we shall have received during the year approximately 120,000,000 lbs. of Australian and New Zealand wool, making our total supply for the year 880,000,000 lbs., exclusive of South American and South African sources.

Few of our manufacturers fear English competition in domestic markets, for they believe England will have plenty to do in supplying Europe with woolen goods. Also they do not expect the English woolen industry to resume until some time after our own.

Our manufacturers do not look for an extensive export business in most lines of woolen goods. The United Kingdom's domination of the woolen export trade in pre-war years shows how hard it will be to compete permanently with British goods in neutral markets. Nevertheless, the opportunity exists now to get a foothold in foreign countries. The London *Statist* in several recent issues has sounded a note of warning to the English trade, making the statement that United States export houses are breaking new ground in neutral Continental markets and that sales are actually taking place in woolen goods hitherto provided by English and German firms. The formation of export associations for the marketing of textile products abroad is significant of the determination of American woolen manufacturers to broaden their markets. But any foothold gained now during the disorganization of British production can be held permanently only by bringing our industry to that pitch of efficiency for which the woolen industry of Great Britain has always been famous.

Hours of Work, Health and Output

Report of the National Industrial Conference Board

IN a report just issued by the National Industrial Conference Board the conclusion is reached that in the metal manufacturing industries it is possible for "a considerable proportion of establishments to maintain production on a schedule of fifty hours per week," but that such a schedule "could not be universally adopted by these industries without some loss in production."

In the case of a 48-hour week a smaller proportion of establments reported production as maintained, and several of these, because of unusual size, exacting nature of the work, or other reasons, were not representative organizations. Notwithstanding the fact that reductions to such a week proved satisfactory from a production standpoint "in a sufficient number of cases to invest such a schedule with a high degree of interest," the report holds that "the weight of the evidence leaves little ground for doubt that a general reduction to a 48-hour week at the present time would mean a serious loss to effective production.

"The amount of handwork as contrasted with automatic-machine work exerts an important influence on output. In establishments where a very large percentage of the work is performed by highly automatic machinery the evidence indicates that in general maximum production cannot be had on a schedule as low as forty-eight or fifty hours per week."

The investigation developed no significant change in the health of metal workers resulting from reductions in work hours. The tuberculosis death-rate in certain branches of metal manufacturing industries, as for many other indoor occupations, is high. It is notably high among brass workers. On the whole, however, the report finds that health conditions among workers in the metal manufacturing industries are relatively favorable, judged by the average hazards of industrial employment.

Everything Depends on Co-operation

The report points out that a distinction should be made between what can be done on a 50-hour schedule and what, as a practical matter, will be done. Much depends upon the degree of co-operation secured between the management and its workers. If full co-operation to attain the highest reasonable efficiency could be secured, there can be little doubt that a 50-hour week could be very generally adopted in the metal trades without serious disadvantage. "No single factor," says the report, "could do more to accomplish this result than the recognition by workers of the indisputable principle that their real interest and that their real opportunity for bettering their condition lies in increasing the efficiency of individual production. . . . . If both management and workers would actively co-operate to this end, moreover, a 48-hour week might prove practicable in a larger number of establishments than is now the case. But unless such co-operation is secured there can be little question that the general adoption of a 48-hour week in the metal trades would involve a serious economic loss to the nation."

The report includes the metal trades proper, foundries, automobiles, hardware, electrical equipment, and some miscellaneous establishments. In the course of the investigation two questionnaires were sent out, one in the latter part of 1917, the second in March, 1919. Replies were received from 1,247 establishments, employing 755,534 workers. Of these, 409 establishments, employing 361,371 workers, had reduced hours, and furnished data as to the effects of such reductions.

Evidence Furnished by Questionnaires

The evidence furnished by the two questionnaires for the 50-hour and 48-hour groups, in which as a practical matter interest chiefly centres, is summarized as follows:

EFFECT ON OUTPUT: 48-HOUR GROUP.

	1917. Estab-lishments.	1917. Per cent. of Total Employees in Group.	1919. Estab-lishments.	1919. Per cent. of Total Employees in Group.
Increased	5	*67.1	1	8.4
Maintained	13	16.4	4	2.6
Decrease, less than proportional	4	2.9	9	32.2
Decrease, about proportional	10	9.4	14	40.7
Decrease, greater than proportional	1	.5	3	1.4
Decrease, amount not stated	8	3.7	9	14.7
Totals	41	100.0	40	100.0

EFFECT ON OUTPUT: 50-HOUR GROUP.

Increased	4	4.9	2	8.6
Maintained	28	47.8	9	11.9
Decrease, less than proportional	12	28.4	9	42.6
Decrease, about proportional	10	9.7	7	10.6
Decrease, greater than proportional	2	3.4	1	1.6
Decrease, amount not stated	10	5.8	7	24.7
Totals	66	100.0	35	100.0

*Over 60 per cent. of the employees in the 48-hour group were in two establishments.

In the case of the 48-hour group covered by the 1917 returns, the establishments reporting an increase in production had more than two-thirds of the total number of workers. However, one of the establishments increasing production was exceptionally large, which gives a disproportionate weight to the "increased" group from the standpoint of numbers employed. It is, nevertheless, significant that sixteen other establishments, none of which were of unusual size, reported either an increased or a maintained output under such a schedule.

Of sixty-six establishments which reduced to a 50-hour week, four reported production as increased, twenty-eight as maintained, and thirty-four as reduced. The groups maintaining or increasing production, therefore, represented approximately half the number of establishments in this group, a proportion sufficient to indicate the practicability of a 50-hour schedule for a considerable section of the metal manufacturing industries. These two subgroups together had rather more than half the total number of workers included in the 50-hour group. Moreover, in three of the establishments reporting production as decreased, piece-workers maintained their output, while in five others the loss was comparatively small.

Working Hours and Production

The results of the 1919 inquiry are considerably less favorable to the practicability of a 48-hour or a 50-hour week than are those obtained in response to the 1917 inquiry. So far as the 48-hour group is concerned, the number of establishments maintaining or increasing production on such a schedule was small, and also the number of workers included in them. In the case of the 50-hour schedule, likewise, the number of establishments maintaining or increasing production was comparatively small—eleven, as against twenty-four reporting a decrease—while they had only about one-fourth the number of workers included in the group reporting a loss in output. In this connection the report points out that practically all of the experience obtained through the 1919 questionnaire occurred under highly abnormal conditions. During the greater part of 1918, when approximately one-third of the reductions covered by this questionnaire took place, wages were exceptionally high and the demand for labor was extraordinary. On the other hand, after the signing of the armistice, business in many branches of the metal trades was more or less demoralized, and frequently there was a shortage of orders, so that workers had less incentive to maintain maximum efficiency, while the mere reaction from the extraordinary stress of war in itself often had a tendency in the same direction. For all these reasons, the evidence gathered by the 1917 questionnaire is a safer criterion of the practicability of a shorter hours-of-work schedule than is that obtained through the 1919 questionnaire.

A striking feature of the report is the rather general satisfaction with a 50-hour week or a 48-hour week expressed by manufacturers who had reduced to such schedules. Of the forty establishments which had reduced to a 50-hour week, twenty-nine expressed a preference for such a schedule; while of forty which had reduced to a 48-hour week twenty favored this schedule and ten others a 50-hour schedule.

It is true that establishments operating on a 54 or a 55-hour week in nearly all cases expressed a preference for the particular schedule they were operating on. The experience of these manufacturers who had not reduced hours below fifty-four per week cannot, in fairness, the report holds, be given equal weight in reaching conclusions as to the practicability of a 50-hour or a 48-hour week with that of employers who have operated on such shorter schedules.

An important fact brought out by this study, as well as in the reports on several of the other industries included in the board's investigation of the hours-of-work problem, is that there is no clear-cut line below which a reduction in hours brings a practically uniform change in results. Thus, despite the fact that a substantial number of establishments maintained production on a 48-hour week and a rather large number on a 50-hour week, a majority of establishments reducing only to 54 or 55 hours per week reported that production was decreased.

The results of reductions in hours presented in the report are based chiefly on the judgment of manufacturers as expressed in their replies to questionnaires.

The report clearly indicates that piecework is more conducive to efficiency than is day work. "In this connection the rather low percentage of piece-workers in the industry as a whole, as compared with the other industries thus far investigated, suggests that there is opportunity to increase efficiency by increasing the number of workers on a piece-rate basis. The difficulties in the way of this, however, are often great, especially in those cases where quality is the prime consideration."

The report points out that management methods have an important bearing on output results under any schedule of hours. A part of the differences in results obtained by establishments reducing to the same weekly schedule under apparently the same general conditions is attributed to differences in efficiency of management. Differences in the process, in the raw material, in the machinery, or in the type of workers, are also mentioned as important factors. The questionnaire aimed specifically to bring out the fact whether any important changes in these respects had occurred in a given establishment when hours were reduced, the object being to determine as accurately as possible the effect of changes in hours alone.

While a few establishments maintaining or increasing production or reduced hours-of-work schedules were exceptionally large, in general the size of the establishment was not an important factor in results.

The maintenance of output did not appear to depend upon the character of the industry. For instance, as between automobile, hardware and general machine shops, no significant differences in results when hours were reduced were apparent. Certain types of foundry work, however, present exceptions.

"Some evidence was obtained in the course of the investigation to the effect that in the case of work requiring unusual precision or which was for other reasons particularly exacting, there was more opportunity to introduce the eight-hour day successfully than in ordinary metal trades establishments."

Among the features of the evidence brought out by the study is the high percentage of open-shop establishments in the metal manufacturing industries. Replies to the second questionnaire indicated that approximately 93 per cent. of the establishments replying were operated on an open-shop basis.

General Health of Metal Workers

The report states that conclusions as to the effects of reductions in hours of work on health of workers in the metal trades industries cannot be reached at this time, for the reason that data covering a sufficient period to permit satisfactory study are not in existence.

Of those establishments replying on this point eight reported an improvement in health conditions following reduction in hours to fifty or forty-eight a week, while eighty-four reported no noticeable change. A particular difficulty in drawing conclusions from these statements arises from the absence of any recognized standard for measuring health conditions.

Statements of manufacturers furnished in the course of the investigation indicated generally favorable health conditions among their employees. Certain occupational diseases, such as lead and brass poisoning, are prevalent in the metal trades; lead poisoning, however, is not characteristic of the particular branches of the metal manufacturing industry included in this investigation. In some processes acid and other fumes introduce an occupational hazard.

"The evidence is clear," says the report, "that for a part of the industry the death-rate from tuberculosis is exceedingly and

unnecessarily high. It should, however, be pointed out that in general the branches characterized by exceptionally high death-rates from tuberculosis employ a relatively small proportion of the workers in the industry. It is obviously incumbent upon industrial managers to make intensive study of the conditions peculiar to these branches of the industry, with a view to devising some means for bringing about a reduction in this excessive rate. Furthermore, the rate is so high for the industry as a whole as to call for careful study of general working conditions and more exact knowledge of the causes contributing to tuberculosis.''

With reference to accident hazards the board finds that ''owing to the great variety and intricacy of much of the machinery used, the speed at which it is often operated, the use of acids and poisons, and the intense heat characteristic of certain operations, the accident hazard in the metal manufacturing industry is comparatively high.'' The accident death-rate, however, is lower than the average for all manufacturing and mechanical industries collectively.

Recognizing the importance of social conditions in the hours-of-work problem, the report says: ''Output and health are, of course, not the only tests of the justification of any hours-of-work schedule. The broad social aspects of the problem as to the proper work-schedule are of great importance. The social factors may, however, be more intelligently considered in the light of reliable information concerning the relation of health and output to hours of work. The purpose of this and the previous report in the series was to determine the facts on these fundamental points, leaving the social features for later discussion.''

The report is the fifth thus far issued by the board in the course of an extensive investigation of the effect of reductions of hours of work on output and on health of workers in various major industries.

Business Methods in Belgium

Points to be Observed in Seeking to Secure Orders from Belgian Merchants

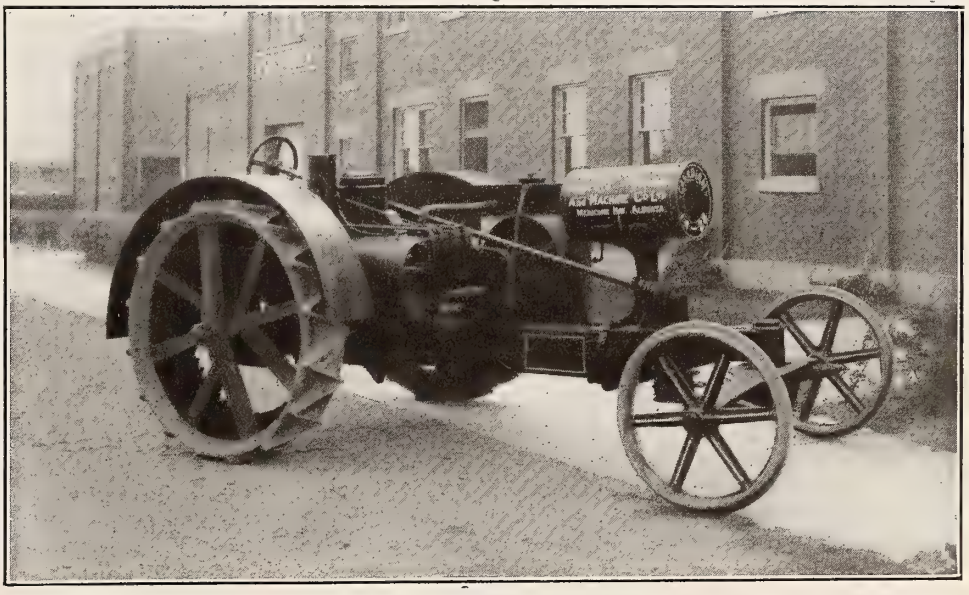
The advantages of utilizing travellers rather than catalogues to secure orders from Belgian retail traders is emphasized by the British Vice-Consul at Charleroi, says the *Board of Trade Journal* (London). A well-known Belgian dealer in fancy leather goods informs him that the Belgian retail merchant rarely purchases from catalogues. Belgian manufacturers—and the Germans as well—have their customers waited upon by travellers carrying samples, and the catalogue is only a secondary means of reaching the client with any chance of success. Catalogues, he states, are a practical medium only in the case of goods which are too heavy or bulky to move about, and in such cases the Germans often organized at Brussels an exhibition in a room hired at an hotel, which they invited customers to attend, frequently repaying the railway fare.

If, however, the manufacturer wishes to resort to catalogues, the catalogue must be printed in French, with prices in Belgian francs, measurements according to the metric system, and adopting a nomenclature approaching as nearly as possible that current in Belgium. It is essential for manufacturers, before drawing up a catalogue or making a collection of samples, to make themselves acquainted with what has already been done, with the peculiar tastes of the Belgian clientele.

Prices must be stated in Belgian francs, goods delivered free of all costs in the customer's premises. It must not be forgotten that one is dealing mostly with retail merchants who are not well acquainted with such matters as transport customs, insurance, rates of exchange, etc., and who have neither the staff, the time, nor the means of passing goods through the customs or working out the actual cost price. The Germans sold goods in Charleroi delivered free of all costs. The customer knew that nothing could be added to the purchase price except his own profit, and knew also that no unforeseen charges would increase the cost price.

Here again the Germans showed their skill. They would never have asked for payment in advance, nor on delivery. They inquired into the credit of the customer before doing business, and, an order being booked, they gave credits of from thirty days to three months—sometimes even six months. As an example, one Belgian retailer has effected payment at thirty days, but with two per cent. discount, and, if the business done exceeded a certain figure annually, was credited with one or two per cent. additional discount, according to the firm.

Democratic government is a government of co-operation, the working together of individuals. The socialists are strong on co-operation. There is one thing they are extremely fond of, and that is co-operation; but it is a word they have no right to use, because co-operation is the working together, the result of individual impulse. Socialism is working together as the result of government and outward direction. That is the difference between socialism and the co-operation with which men worked together in the Liberty Loans. Democracy is working together through an inward impulse; socialism, through an outward direction.—*Prof. W. S. Myers.*



A Tractor "Made in Alberta"

This illustration derives special interest from the fact that it shows one of the first "Canadian" tractors to be built in Medicine Hat by the Alberta Foundry and Machine Co., Limited. The Company have already produced several of these machines and they have stood up well under a stiff agricultural test. Production is being continued, but the output will depend on the ability of the Company to obtain material

Music on the Payroll—An Aid to Efficiency

All Human Beings Bestow on Their Work the Reactions from the Influences to which They are Daily Subjected, and the More Interesting and Happier the General Community Life the More Attractive will be the Goods which that Community Manufactures and Sells

By J. A. FULLERTON

WITH results so immediate and definite in developing efficiency of the workers, by the employment of music in some form or other, the wonder is that more firms have not put music on their payrolls. It is strange that so unmodern a proposition should receive such tardy recognition by employers, and indeed, if they would let themselves visualize the effect of music on quantity and quality of output the musical directorship of any firm, with pretentions to be classed among the important industries, would be as essential as the factory superintendent. He would be a producer.

Manufacturers and other employers can see that better work and more of it is possible in a bright, cheerful, sanitary, comfortable place, with pleasant surroundings and outlook. Flowers, pictures, dining room, rest-room and even a player piano and occasionally a phonograph are some of the items in the equipment of many plants, and not for philanthropic reasons, but because these things pay dividends.

But there are practical, successful business men who have always harbored a more or less secret delusion that music is something to be tolerated in others and a frill for ones own family—a sort of outward badge of success. They have not thought of it as an efficiency builder.

Is Music Practical

Ninety per cent. of the school children of this country will never get beyond the public school. Their parents are sending them to school in the hope that what they learn will fit them to earn a livelihood and to become good citizens. Is a knowledge of, an interest in, or a love for music going to assist these children to better citizenship and to make a better livelihood? Will music in their lives make them better workmen and housekeepers?

In short, is music a practical subject?

Is it essential?

Most assuredly it is.

The boy or girl who has been taught to play the piano, organ, violin, guitar or any other instrument has a great advantage over the one who has not had musical instruction. He is quicker of eye, has more dexterous digits, can more readily connect up co-related subjects, has a wider, general knowledge and a more alert and facile mind. Instruction in music is a training in quick decision and prompt action.

Every office man knows that the most nimble stenographers are those who have learned to play the piano. Any man who works among machinery knows the value of an ear quick to detect variation in sound, and it was this fact that prompted a large engineering corporation, in advertising for young men to specify a preference for those who had received instruction in violin playing.

Why is it some automobile mechanics locate the elusive thump, grind, rattle or squeak in your car so much more quickly than others? Because of a more sensitive ear which may or may not be the result of training, but the man with the less sensitive ear would have been equipped to detect sound variations much more readily if he had not been denied his birthright of musical instruction of some kind.

A story is told of a certain lumber mill owner who was a regular customer of the man who specialized in repairing saws for the mills of the neighborhood. The latter asked the mill owner why it was his sawyer broke more saws than any other mill around. "Well," he thoughtfully replied, "I don't know unless it's because he has no darned ear for music." He couldn't tell from the sound of the saw whether it was cutting hardwood, softwood, or pig iron.

Influence on Morale

But this phase of the practicability of music, important as it may be, is merely incidental to its sphere of influence on workers collectively, on their morale.

Morale! What is it?

As a word, morale has become a very active unit of our vocabulary. What it stands for is something that was rather vaguely realized until the necessities of the war brought it out. One of Webster's definitions of morale is "condition as effected by, or dependent upon such moral or mental factors as zeal, spirit, hope, confidence, etc." or "mental state of a body of men, an army and the like."

That efficiency-mad nation so recently brought to its knees found the soldiers could march twenty-five per cent. more miles in a day with music and with less fatigue. One of the first acts of Sir Douglas Haig, when he took command of the British Army was to restore its bands. Why? Because of necessity for morale.

Example of Lloyd George

When, during the war, some of our bankers, economists and other theorists were decrying the extravagance of the people and urging, among personal and family retrenchments, the discontinuance of the purchase of musical instruments during the war, the Prime Minister of England was appealing to the people of Wales not to forego the great annual musical event, the Welsh Eisteddfod, as some thought they should do because of the war. Lloyd George, one of the greatest of the world's great men, in a public address, urged the people of Wales not to discontinue their great festival of Welsh literature and song. Referring to the soldiers, who were singing the songs of Wales in the trenches, he said: "There is not one of them who would not be sorry if we gave up our National Eisteddfod during the war. They want to feel that while they are upholding the honor of Wales on the battlefields of Europe, Asia and Africa, we are doing our best to keep alive all the institutions—educational, literary, musical, religious—which have made Wales what it is to them."

These economist preachers of ours did not tell us to discontinue our interest in good literature, school-books, pictures or flowers, because of war needs. One of the lamentable effects of the first year of the war was to interfere with.

and in many cases stop altogether musical and other instruction being given to children, just at the formative period of their lives.

Soon our economist preachers began to realize that they didn't know what they were talking about in their references to musical instruments. From the soldiers in the training camps, in the trenches and in the hospitals came a constant, insistent demand for music. The men—and the men, women and children behind—found the need of their morale being jacked up. Music was the one thing to do it and music did it.

To this fact can very largely be attributed the music industries of Canada being able to survive the war as they did and surviving as an essential—not a luxury industry. Music had come to be reconized in the army as absolutely essential to winning the war.

Cabled for Musical Director

One of the first notable acts of General Pershing, of the American Army, was to cable from Europe for the most able musical director the United States could provide and who was promptly placed at the General's disposal. General Pershing was not merely desirous of entertaining the boys. He had bigger things than entertainment or amusement to consider. He had every battalion equipped with the best band of players that could be secured. "Sing-songs" with directors in charge were established in all training camps and the idea back of it all was morale—"to keep the fighter fit."

But what is morale in industrial life? Isn't it zeal, enthusiasm, confidence, dependability that employers ask of their workers? Do not employers proudly direct attention to the well-dressed, upright, clean-cut, bright-looking, alert employees. It is natural that the best results should come from workers in good physical and moral health, clean inside and outside, living and working in an atmosphere of good cheer.

The request of a firm of textile manufacturers for three professional musicians to whom good salaries were guaranteed prompted the writer to ascertain what the advertisement meant. It meant that the firm located in a Rhode Island town of about 2,000 inhabitants and the centre of a group of villages with a combined population of eight or nine thousand had decided that the quality and quantity of its products could be improved by the use of music.

Working on Commercial Basis

The firm in question was distinctly not doing welfare work, kept away from this as far as possible and even avoided the use of the word, nor was it expending surplus earnings nor gratifying a whim of the owner. On a purely commercial basis it set about getting the people of the community to maintain a musical activity in which it was willing to assist only to the extent of making the general plan economically possible. The main desire for the project was to come from the people themselves.

But why this active interest in music?

Let the answer come from the company itself. "In the present instance we are going to attempt to stimulate a musical atmosphere in our locality, with the expectation that the effort will justify itself economically from the broad general standpoint that all human beings bestow on their work the reactions from the influences to which they are daily subjected and the more interesting and happier our general community life may be, the better and more attractive will the goods which we manufacture and sell become."

Further inquiry discovered the fact that the firm above referred to had no monoply on its theories that quality of workmanship and quality of output could be improved by the employment of music.

The Robert Simpson Co., Ltd., of Toronto, introduced a morning sing of the employees, who took great interest in this daily event. The observation of the company concerning the innovation was—"very well patronized by the employees and seemed to be very much appreciated by everyone taking part in it. We believe it did tend to increase the efficiency of the staff in so far as it sent every one to their daily duty with a song in their heart."

Sears, Roebuck & Co., the well-known Chicago mail order house have an orchestra, a band, men's chorus and women's chorus, meeting once per week for rehearsals. They give noon concerts to the other employees and under the auspices of the Civil Music Association gave a series of concerts in different parts of the city during the summer of 1918. The expenses are taken care of by the firm. A committee of the men and women handle the music.

Just to forestall the reader who has a preconceived idea that music might be all right in factories where female labor is employed or men in clerical positions, but not practicable in factories employing men only, I mention the Chicago & Alton Railway Company, at Bloomington, Ill., where during the winter months the men in the shops held a sing every week. The superintendent reported that, "these gatherings were a fine success, as almost every employee attended each meeting. Music was furnished by an orchestra composed of the employees of the shop, and besides the community singing, solos, both instrumental and vocal, and lectures by various notables were enjoyed."

Overcomes Depression

A large American shoe factory, employing twelve thousand operatives found that the depressing influence of the monotony of the work was largely overcome with the aid of music.

To ascertain if possibly there were no Canadian enterprises as up-to-date as those of the United States, I wrote thirty letters to members of as many different kinds of industries asking if music either on the initiative of the firm or the employees themselves was used in any way to develop employees efficiency. The eight replies received were as varied in character as the industries heard from.

A firm of costume manufacturers have provided a piano in the rest-room and hoped in the near future to put on a daily sing song being quite in sympathy with the idea of promoting music among the employees.

Another firm placed a player piano in the lunch room which they believed was appreciated by the employees.

One of the most accomplished and best known bands in the country is maintained by Anglo-Canadian Leather Co., Ltd., of Huntsville, and has done as much to make Huntsville famous as has the products of the company's plant. The band is one of fifty members, conducted by Herbert L. Clarke, a celebrated cornetist, a Canadian and who for many years was soloist with Sousa's band. This band played a three-days' engagement at the Canadian National Exhibition of 1918, and received a tremendous ovation. The band, which is maintained by the company, is considered an advantage to the company, to the employees and to the locality in general.

While not vouching for the authenticity of the following, the writer believes the statement to be correct. It was credited to the officer in command of a military camp in Virgina and was apropos of music in industrial life being discussed.

"We were just starting on the second one of the second group of buildings, which was to be identically like the first.

and we were anxious to rush it to completion. At the suggestion of a New York musician, who was in training there, we determined to try the 'music treatment.' I arranged to have one of the camp bands play for two hours every forenoon and two hours every afternoon, and to have it play lively tunes, preferably marches. The result was simply astonishing. I would happen around during the playing, and it was a real treat to see how the workers limbered up. They could not get away from the rhythm of the music. Men who would ordinarily walk slowly now stepped along at as lively a rate as schoolboys on a holiday; men who were driving nails could not get them in fast enough, and kept up with the band right on the note; all over the works it was rap! and tap! and bang! in time with the music. You never saw such hurry-up working in your life.

"Of course, it was to be expected that they would let down some when the band stopped, but when it started operations again the workers resumed their hurry-up pace, too. What was the result? This: The building in question was completed in twelve days' less time than the structure identically like it which the same workers had finished just before it.

"As an experiment, one afternoon, I asked the band to sandwich in a few funeral dirges and slow tunes. You should have seen how the work slowed up!"

It is not so many years since the employer who undertook to improve the physical and moral conditions surrounding his employees was regarded as a faddist. He soon proved the contrary and it has of course been found that the best workers are discriminating in their selection of a place to work and that the influence of environment is reflected in their efforts whether physical or mental. The necessity of efficiency is greater than ever it was, and in its development music is likely to have important recognition.

Peat Fuel Resources

Canada's Peat Bogs Cover 37,000 Square Miles and Contain Over Nine Billion Tons

In the bulletin entitled, "Peat as a Source of Fuel," by Eugene Haanel, Director, Mines Branch, issued by the Commission of Conservation, the following account is given of the peat resources of Canada:

"The total area of the Dominion of Canada overlain by peat bogs is estimated to be 37,000 square miles, and of this total area the known peat bogs of Manitoba, Ontario, Quebec, and New Brunswick, comprise 12,000 square miles, with an average depth of six feet. This is probably but a portion of the actual amount of this valuable fuel asset in existence in these provinces.

"One square mile of peat bog, with an average depth of six feet, will produce 774,000 tons of peat fuel, with a moisture content of 25 per cent. The 12,000 square miles will, therefore, contain about 9,300,000,000 tons of peat, having a fuel value of equivalent to about 5,400,000,000 tons of good coal. This calculation is made on the assumption that the total quantity of peat contained in the 12,000 square miles is suitable for fuel purposes. This assumption is not strictly correct, but is near enough to serve the purpose of illustrating the enormous potential energy stored in our vast peat deposits.

"Up to the present time the Mines Branch has located, delimited, mapped and investigated, as to depth, character, and quantity of peat available, for commercial exploitation as fuel or litter, peat bogs comprising approximately 175,000 acres. Of this total amount, published reports treat in detail about 140,000 acres, distributed as follows: Ontario, 25 bogs; Quebec, 12; Nova Scotia, 8; Prince Edward Island, 6; and 7 in Manitoba, making 58 in all. These bogs are estimated to be capable of producing 115,000,000 tons of fuel, and 10,500,000 tons of peat litter.

"Seven bogs within convenient shipping distance of Toronto are estimated to be capable of producing 26,500,000 tons of fuel, and seven bogs in the vicinity of Montreal could supply that city with 23,500,000 tons of fuel."

A Yearly Service Plan

Advantages for Firms Having a Considerable Number of Patent Applications Each Year

The importance of having a patent department in every up-to-date manufacturing organization has come to be a recognized fact. There are constantly new developments, new products, new methods of manufacturing, new improvements, and the progressive manufacturer feels that he should keep abreast of them. But the drawback in most cases to the installation of a patent department lies in the overhead expense. For the average manufacturing concern, the cost is too high. Fortunately this obstacle is not insurmountable. There is a way of getting round the difficulty, and that way has been provided by that enterprising firm of patent attorneys, Harold C. Shipman & Co., Ottawa. While Messrs. Shipman & Co. are quite prepared to do the everyday work assigned to them, they have made a new departure in offering to manufacturers what they call their yearly service plan. Under this arrangement they become virtually the patent department of each firm they undertake to serve and give them a year-round service on all matters affecting patents. They are probably the first attorneys to offer this yearly service, and already they have met with much success in securing clients.

Where they handle an entire patent service for a company, they are naturally more familiar with their methods and requirements than if they simply dealt with each case individually. Consequently they are in a position to study their methods more carefully and bring to their attention possible opportunities which come to their notice from time to time. The yearly plan also reduces the cost of the attorney work and leaves the firm at liberty to inquire for particulars of any patent matters at any time. All small matters that might result in infringements will be carefully attended to, that firms will be saved consequent inconveniences. It is undoubtedly a plan well worth consideration.

Another Industry for Hamilton

Carr Fastener Co. of Boston Will Establish a Canadian Plant at Once in Hamilton

The Carr Fastener Co., of Boston, Mass., reputed to be the largest manufacturers of metal fasteners in the world, have completed arrangements for the immediate establishment of a large Canadian branch of their industry in Hamilton, Ont. A two and a half acre site in the heart of Hamilton's manufacturing district has been purchased, and building operations are to be commenced at once. The Carr Fastener Co. is capitalized at a quarter of a million dollars, and the buildings to be erected will cost in the neighborhood of $100,000. The Canadian plant will give employment to upward of 200 hands almost immediately, and it is expected that this number will ultimately be increased to 400 or 500. The Carr Fastener Company are the manufacturers of the "Lift the Dot," "Durable Dot," "Veltex Dot," automobile fasteners, as well as the "Common Sense" and other lines. In addition to supplying the Canadian automobile and other trade from Hamilton, it is the company's intention to have its Canadian plant supply the export trade. Building operations are to be rushed and the company expects to be manufacturing in its Hamilton plant before December 1st.

Transportation Items

Service to Newfoundland

Halifax Shipping Company Puts on New Service from North Sydney to St. John's

The Transportation Department, C.M.A., has recently been advised by Messrs. Farquhar & Co., Limited, Halifax, N.S., that they have inaugurated a service, with the S.S. *Sable*, from North Sydney to St. John's, Newfoundland. The steamer sails every Saturday morning, carrying freight and passengers. Information in regard to passenger accommodation must be secured from Farquhar Trading Co., Limited, North Sydney, and applications for space for freight shipments must be made to Farquhar & Co., Limited, Halifax, N.S. Rates will be quoted on application.

Deliveries on Sidings in Terminals

G. T. R. to Adopt Same Regulations as C. P. R. in Montreal and Toronto Terminals

The Grand Trunk Railway has adopted the same regulations as those applying on the Canadian Pacific Railway at Toronto and Montreal, covering carload traffic received at these two points. As is generally known, the railways in Toronto and Montreal have divided their delivery facilities into what are known as "sub-terminals." For example, in Montreal there is Outremont, Place Viger, etc., and in Toronto, Parkdale, West Toronto, etc. All carload shipments consigned to Toronto are accordingly taken to Simcoe St., and all shipments consigned to Montreal to Place Viger on the C.P.R., and Bonaventure on the Grand Trunk. The new arrangement which has been in vogue on the C.P.R. for sometime requires that carload shipments must be consigned direct to the sub-terminal, where delivery is desired. For example, a shipment from John Jones, Kingston, to William Smith, located at the Don, should be shown on the bill-of-lading as "William Smith, Don," followed by the words "Toronto, Ontario," in brackets.

So that this matter may be quite clear the following example of a local freight waybill, which forms part of the Grand Trunk Circular No. 1590, "Instructions to Agents," is submitted herewith:

LOCAL FREIGHT WAYBILL

From Kingston, Ont.	To Don, Ont. (Toronto)	Date November 2, 1918	Waybill No. 1	
Consignor, Connecting Line Reference, Original Car and Waybill Number and Point of Shipment.	Marks Consignee and Destination	No. of Packages	Articles and Classification. Conditions (O.R., C. R., Rel., Gtd., etc.)	Weight
Jno. Jones	Wm. Smith, Don ..... (Toronto, Ont.)	1	Car Oats	60,000

Copy of this circular may be secured direct from any Grand Trunk Agent or Division Freight Agent. A limited number is also being supplied to each one of the Division Secretaries of the Canadian Manufacturers' Association, located at Amherst, Montreal, Hamilton, Winnipeg and Vancouver. Copies may also be secured from the Head Office of the Association.

If shipments are billed merely to "Toronto" or "Montreal," they will be taken to the terminal which is considered by the Railways as Toronto or Montreal, and any deliveries to any sub-terminals will be charged for in addition to the rate. It is suggested, therefore, that all interested manufacturers in these two cities should give instructions to all those from whom they receive shipments, so that the goods will be properly billed, and thus avoid additional expense.

The Grand Trunk Railway has sent a copy of this circular to all its agents and advised connecting lines of these conditions.

Service to Belgium

Third Voyage of S.S. "War Beryl" to be made on or about September 10

The Canadian Pacific Ocean Services, Limited, announce that the S.S. "War Beryl" will commence its third voyage from Montreal to Antwerp on or about the 10th day of September. All arrangements as to space and rates on this vessel should be made to G. D. Robinson, European Freight Agent, 21 Board of Trade Building, Montreal, or J. R. Clancy, General Agent, C.P.R. Building, Toronto, who represent the Canadian Pacific Ocean Services, Limited.

Steamship Sailings

A Record of Vessels Sailing from Montreal During August and Early September

The following announcement of proposed sailings from Montreal is made by the Canadian Pacific Railway Ocean Services in Bulletin No. 15, issued August 1. It will be found useful by manufacturers who are engaged in export business.

TO LIVERPOOL.

Vessel.	LINE.	
Minnedosa	C.P.O.S. Line	Ab't Aug. 13
Canada	White Star-Dominion Line	Ab't Aug. 13
Scandinavian	C.P.O.S. Line	Ab't Aug. 14
Metagama	C.P.O.S. Line	Ab't Aug. 15
Megantic	White Star-Dominion Line	Ab't Aug. 16
Melita	C.P.O.S. Line	Ab't Aug. 29
Rimouski	White Star-Dominion Line	Ab't Aug. 31

TO LONDON.

Scotian	C.P.O.S. Line	Ab't Aug. 6
Willaston	Cunard Line	Ab't Aug. 10
Vardulia	Cunard Line	Ab't Aug. 23
Cornish Point	C.P.O.S. Furness Line (Furness)	Ab't Aug. 25
Tunisian	C.P.O.S. Line	Ab't Aug. 28
War Peridot	C.P.O.S.-Furness Line (C.P.O.S.)	Ab't Sept. 5
Mattawa	C.P.O.S.-Furness Line (C.P.O.S.)	Ab't Sept. 6
Dunbridge	C.P.O.S.-Furness Line (C.P.O.S.)	Ab't Sept. 10

TO ANTWERP.

Glenspean	C.P.O.S.-Furness Line (Furness)	Ab't Aug. 7
War Beryl	C.P.O.S.-Furness Line (C.P.O.S.)	Ab't Sept. 10

TO GLASGOW.

Saturnia	Anchor-Don. Line	Ab't Aug. 13
Corsican	C.P.O.S. Line	Ab't Aug. 23
Cassandra	Anchor-Don. Line	Ab't Aug. 23
Montcalm	C.P.O.S. Line	Ab't Aug. 29
Pretorian	C.P.O.S. Line	Ab't Aug. 30

TO AVONMOUTH DOCK (Bristol).

Dominion	Dominion Line	Ab't Aug. 16
Vallaria	Cunard Line	Ab't Aug. 16
Monmouth	C.P.O.S. Line	Ab't Aug. 28
Sardinian	C.P.O.S. Line	Ab't Sept. 4

TO MANCHESTER.

Manchester Corporation	Manchester Liners	Ab't Aug. 7
Manchester Hero	Manchester Liners	Ab't Aug. 17
Manchester Division	Manchester Liners	Ab't Aug. 30

TO HULL.

Maplemore	Furness Line	Ab't Aug. 3
Norfolk Range	Furness Line	Ab't Aug. 13
Grampian Range	Furness Line	Ab't Aug. 18

TO LEITH.

Cairn Gowan	Thomson Line	Ab't Aug. 3

TO DUNSTAN (Newcastle-on-Tyne).

Cairnvalona	Thomson Line	Ab't Aug. 5

TO DUBLIN.

Lord Antrim	Head Line	Ab't Aug. 10
Carrigan Head	Head Line	Ab't Aug. 15

TO BELFAST.

Milmore Head	Head Line	Ab't Aug.	24
Ballygally Head	Head Line	Ab't Aug.	30

TO ST. NAZAIRE (France).

Cape Corso	Can.-French Line	Ab't Aug.	25

TO HAVRE (France).

Lord Dufferin	Canadian-Trans-Atlantique Line	Ab't Aug.	4
California	Canadian-Trans-Atlantique Line	Ab't Aug.	7
Hudson	Canadian-Trans-Atlantique Line	Ab't Aug.	15
Wisley	Canadian-Trans-Atlantique Line	Ab't Aug.	30

TO BUENOS AIRES AND MONTE VIDEO.

Clan Skene	Houston Lines	Ab't Aug.	20
A Steamer	Houston Lines	Ab't Sept.	15

TO SOUTH AFRICA.

Cape Town, Port Elizabeth, East London, Durban and Delagoa Bay.

Benguela	Elder-Dempster Line	Ab't Aug.	25

TO AUSTRALASIAN PORTS.

Melbourne, Sydney, Auckland, Wellington, Lyttleton, and Dunedin (Port Chalmers).

Wangaratta	New Zealand Shipping Co.	Ab't Aug.	20

TO BARBADOS AND TRINIDAD.

Canadian Recruit	Can. Govt. Merchant Marine Ltd.	Ab't Aug.	5
Canadian Warrior	Can. Govt. Merchant Marine Ltd.	Ab't Aug.	26
Canadian Recruit	Can. Govt. Merchant Marine Ltd.	Ab't Sept.	16

TO KINGSTON (Jamaica) and Havana (Cuba).

Canadian Sailor	Can. Govt. Merchant Marine Ltd.	Ab't Aug.	6
Canadian Trader	Can. Govt. Merchant Marine Ltd.	Ab't Aug.	27
Canadian Sailor	Can. Govt. Merchant Marine Ltd.	Ab't Sept.	13

TO CHARLOTTETOWN, St. JOHNS, Newf'd.

A Steamer	Gulf of St. Lawrence Shpg. & Trading Co.	Ab't Aug.	11

Paper Exports Still Grow

For First Month of Fiscal Year Value of Exports Nearly Half Million Ahead of 1918

Canadian exports of paper, pulp and pulpwood for April, 1919, the first month of the new fiscal year, reached a total value of $5,598,128, as compared with $6,323,635 for the corresponding month of 1918, showing a decrease of $725,507. Paper exports alone made a gain of $473,186. The new classification adopted by the Dominion Bureau of Statistics shows that the month's exports of newsprint, the leading paper staple, amounted to 920,592 cwt., valued at $3,160,318, compared with 954,375 cwt., valued at $2,790,158, in April, 1918, indicating a smaller quantity exported this year, but at a higher price.

Exports of both chemical and mechanical woodpulp fell off this year as compared with last, the former by $926,508 and the latter by $266,230. Exports of pulpwood also fell off by $5,955.

Two explanations are forthcoming as to the decrease in pulp exports. The first is that the American demand fell off in November as soon as the war stopped, a number of the board mills closing down and some of the American pulp mills previously diverted to war manufactures resuming their output of pulp. The decline in the demand for Canadian pulp from these causes reached its climax in April, and since that month the tendency has been reversed, and exporters now report the demand equal to this period of a year ago.

The other explanation given is that some large American producers found themselves overstocked in the first three months of this year and marketed their product at the 1918 price, to the disadvantage of the mills selling at the higher prices prevailing this year.

The decrease in the export of groundwood is regarded as without significance, the American demand fluctuating with varying conditions, such, for instance, as the water supply at the American mills, which was favorable to home production in April.

The exports of paper in April, 1919, were divided as follows: United Kingdom, $121,317; the United States, $2,974,048; other countries, $534,873. Exports to the United Kingdom show a slight falling off as compared with April, 1918, the other classifications showing an increase. Next to the countries named, Australia was Canada's best customer for paper, exports to that country reaching a value of $330,488 for the month, New Zealand coming second with $53,957.

Our chief pulp exports went to the United States, Great Britain, Japan, and New Zealand, in the order named. The United Kingdom imported from Canada 24,509 cwt. of groundwood, valued at $36,233, during the month. Later returns will show a great increase.

Who Pays the Increased Wages?

Correspondent of the "St. John Globe" Points Out Reasons for the Steady Increase in Prices

In a recent issue of the St. John *Globe* there appeared the following letter, which sets forth very clearly some of the economic laws which are not much taken into consideration in these days of soaring prices and demands for higher wages:

To the Editor of the *Globe*:

Sir,—While labor recklessly rocks the boat by its demands for higher wages and shorter hours, the question arises, Who pays the increased wages? Is it capital or is it labor itself with capital as a go-between?

Capital, in making up the selling prices of its goods, figures the cost of the raw material, labor, overhead expenses, and adds a certain percentage to net it a profit. If raw material goes up in price or labor costs more, capital simply adds the same percentage, and it is immaterial what the raw material costs or what wages labor gets, providing the increases can be adjusted. Adjusting means shifting the increases on to the consumer. If the cost of raw materials or the wages do not advance the same all over the country then capital suffers, but eventually the extra cost falls on the consumer.

As the number of capitalists is small compared with the numbers of labor, the bulk of the burden must be borne by the latter.

Labor unions have tried to better conditions by demanding higher wages, but according to the evidence of several labor representatives before the Industrial Commission here conditions have not improved and that the working man was better off when he was receiving much smaller pay. If this is true, he was better off before labor unions existed.

When the big Pennsylvania coal strike was settled some years ago the miners got an increased wage, but who paid it? Coal went up a dollar a ton here and every working man who burned anthracite coal had to pay a dollar a ton more for his fuel. This shows how increased wages are paid. The carpenter or the plumber can demand his sixty cents or a dollar an hour, but the relief that this will give him from the high cost of living will only be temporary.

Labor, not satisfied with increased wages, demands shorter hours, which boosts the cost of living still higher. It burns the candle at both ends.

If labor took a practical view of the situation, and in abnormal times, instead of demanding shorter hours would work ten hours instead of nine, they would increase their wages and increase production without increasing the cost of the goods; in fact they would reduce the cost. Then, when conditions became normal, go back to shorter hours.

Another reason why the cost of living is speeding upward is we are getting too lazy. We have too many loafers. There is the corner loafer, the man who seldom makes a full week, and the man who loafs on the job. If every man did his share production would be wonderfully increased and prices would drop. When some industrial concerns report men as being fifty per cent. efficient is it any wonder prices are what they are? Farmers cannot get help and the workers have to pay extreme prices for their food because the loafers won't work. We hear a great deal about profiteering, but if it could be ascertained which has boosted the cost of living most, profiteering or loafing, I think profiteering would cut a poor figure.

When labor realizes that it is not working so much for the "Boss" as it is for its fellowman, it will give a better day's work; it will try and cut out mistakes, be more saving on material; take more care of its employer's equipment, and cut out the needless or wasteful costs that make every man's living cost more.

AN EMPLOYER.

Recent Trade Enquiries

A List of Enquiries Received from Various Sources including the Canadian Trade Mission, London; the Canadian Trade Commission, Ottawa; the Department of Trade and Commerce, Ottawa; and the Commercial Intelligence Department, C.M.A., Toronto.

Domestic

43. A manufacturers' agent in British Columbia is desirous of getting in touch with some firm that requires a selling agent.

Export Trade Enquiries

44. A firm in Greece is interested in importing all kinds of food products.

45. A firm of import and export merchants are interested in the importation of food products of all kinds and advise that they will be pleased to enter into commercial relations with Canadian producers.

46. Firm in France of twenty years' standing desire to enter into business relations with producers and exporters of stavewood to be used in cooper's trade.

47. We are in communication with a firm in London who are desirous of establishing business relations with Canadian manufacturers of office furniture and chairs.

48. An agent in London desires the names of Canadian manufacturers of toys and chairs other than Bentwood chairs, with a view to establishing business relations.

49. A firm of tool manufacturers in England desire to receive quotations on hickory pick handles.

50. A firm of import and export merchants of Cook Island are desiring to do business in British goods providing prices are right. They also desire to establish business relations with buying agents and packing firms in British Columbia.

51. An agent in France advises that he is interested in butter, cheese and salted meats.

52. A trading company in Costa Rica is interested in the purchase of general provisions, groceries and hardware, shoemakers' materials, leather and skins.

53. A firm of long standing in Liverpool desires to represent some Canadian manufacturers of glucose starch, chocolates and sweets for sale in England.

54. A purveyor for some large mines in Bolivia is interested in establishing relations with Canadian exporters of all provisions and such commodities as wheat flour, canned goods, etc.

55. An enquirer in Tunis is desirous of establishing business relations with firms who might buy the following products in Tunisia: Olive oil for the table, sulphide oil, bee's wax, honey, goat's hair, goat-skin, wools, linseed, hard and soft nuts, marjoram, caraway seed, coriander.

56. An agency in England, covering an area where Canadian goods are hardly known is desirous of getting into touch with Canadian producers who cater for the grocer, baker, confectioner and allied trades.

57. There is an opportunity to quote on portable houses of wood for the use of a Belgian colony in Uruguay. Three Belgian families recently arrived at Montevideo and are said to be the advance guard of what will become an important colony.

58. A Mexican firm has a large quantity of twine and manilla rope and would like to get in touch with some of the Canadian Manufacturers who would be interested in the importation of the said products.

59. A Canadian firm is seeking connections with manufacturers who are desirous of cultivating Russian trade.

60. A firm in Barbados is desirous of representing manufacturers in British Guiana and the West Indies.

61. A firm in Holland is interested in the importation of soft and hardwood, sawn and unsawn.

62. A printer in France has written asking to be brought into touch with Canadian paper manufacturers desirous of having an agent in that country.

63. Large importers in Greece, especially of wheat, flour and foodstuffs, wish to enter into relationship with manufacturers interested in this line in Canada.

64. A correspondent who has recently returned from four years' overseas service with the French army, is desirous of representing some of the large manufacturers seeking trade with France.

65. A correspondent, who has been twelve years in Canada, wishes to get in touch with firms requiring a representative in England.

66. A firm in England has had a number of years' experience in the hardware trade and can handle bulk articles, such as brass and iron wire, etc.

67. A correspondent in England is visiting Canada shortly and wishes to get in touch with manufacturers interested in opening up trade in that country.

68. A London company who are prepared to purchase large quantities of non-skid chains for motor car wheels, invite offers from actual Canadian manufacturers.

69. An old-established Scottish firm is desirous of securing agency of Canadian manufacturers of wood pulp of various kinds.

70. A firm in England, open to purchase label manilla paper in lots of ten tons, would be pleased to receive samples and quotations from Canadian manufacturers.

Boosting Thrift Stamps

Goodyear Tire & Rubber Goods Company Have Formed Thrift Societies at their Offices and Plants

Thrift societies in connection with the War Savings Stamp Campaign are being promoted by the Government. One plan is to have business houses of all kinds form local societies for the purpose of affording the individual employees an opportunity to loan his savings (even if they be as low as 25 cents per week) to the Government. This money which the individual invests promotes progress in Canada and therefore incidentally rebounds back to the individuals. On the other hand, the individuals who subscribe in this way to thrift or war savings stamps actually makes $1.00 in only five years for every $4.00 he invests. The man who has a family finds it a splendid plan to start the little ones saving. Nearly every one has many things for which they have to save—an insurance premium, taxes, or even clothes and the like, and while this is a convenient plan to save for such expenditures, at the same time the fact remains that "A man is worth what he has saved," so that a great many subscribers find it a mighty fine permanent investment.

It is remarkable the amount of money loaned the Government in this way. Perhaps one of the biggest societies of this kind is that of The Goodyear Tire & Rubber Co., who have a society in their head office at Toronto and a branch society in each one of the thirteen branches and two factories. Competition is so keen between them that six distinct methods are used in promoting the sale of thrift and war savings stamps by this company.

1. Each branch organizer gets the employees in his branch to request the paymaster to insert Thrift Stamps in his pay envelope.
2. Each organizer has always some stamps on hand ready for sale.
3. Each member of the accounting staff agrees to buy one Thrift Stamp for each error made.
4. Each organizer tries to sell a Thrift Stamp to each employee who is late in the morning.
5. Each branch society competes for first place in *The Goodyear Family News* report.
6. Each organizer promotes the idea of exchanging the interest on war bonds as they fall due.

Already the Toronto branch of the Goodyear Tire & Rubber Company alone have thirty-three subscribers out of a total of thirty-five employees. Altogether these thirty-three employees have agreed to buy 734 Thrift Stamps, subscribing $186 per month in this way.

If the average for the whole of the people were as high, imagine the progress Canada would make during the next decade.

Mr. Ewart G. Horne has been appointed manager of Lockwood, Greene & Co., of Canada, Limited, with offices in the Guarantee Company of North America Building, Montreal.

AMONG THE INDUSTRIES

Under this heading are published items of news of current interest concerning the activities of Canadian manufacturers. Information about changes of interest, enlargement of plants, and plans for future developments are welcome, and are published free of charge, provided they should not be properly classified as advertisements

*** Items prefixed with an asterisk are based on official information received in each case from the companies mentioned. Other items, while secured usually from reliable sources, have not the same authoritative origin**

ALBERTA.

Edmonton.—The Massey-Harris Co. and the J. I. Case Threshing Machine Co. have recently taken out permits for warehouses here.

BRITISH COLUMBIA.

Burnaby.—The first rubber manufacturing plant to be established in Western Canada will probably be located on Kingsway in Burnaby, B.C., according to a delegation which has waited on the Municipal Council of Burnaby asking certain concessions. Special water rates and other concessions will be granted. An agreement between the Municipality and the new company is now being drawn up. The company is known as the Alexander Cunningham & Gregory Tire and Rubber Co.

Courtenay.—A $25,000 extension to the condensed milk plant of Kelly, Douglas & Co., Vancouver, is contemplated.

South Vancouver.—Gregory Tire & Rubber Co. have selected a site for the erection of a tire factory.

Vancouver.—The Electrical Manufacturing Company have taken out a permit for the construction of their new factory building on Granville Island. The estimated cost is $5,000.

The Cal-Van Products, Ltd., has secured a Dominion charter with a capitalization of $100,000 and head office in Vancouver. Under its charter the company can operate markets anywhere in Western Canada.

Industrial building permits recently taken out include one issued to Vernon & Buckerfield, Front Street, for a $3,500 grain elevator, and to M. Wagstaffe, Kingsway, for an $1,800 machine shop.

The Fraser Valley Dairy is building an addition to its Vancouver plant, which is to cost $6,500.

MANITOBA

Winnipeg.—Gordon, Ironside & Fares will construct an addition to their present plant. Estimated cost, $10,000.

The Maple Leaf Milling Co. are remodelling some of their fifty elevators situated in the West.

The Burgess Battery, Ltd., have opened a factory at 701 Wellington Ave., for the manufacture of dry cell batteries. The head office of this Company is at Madison, Wis. L. R. Baker, who was formerly associated with the Canadian Dry Cell Co., has been engaged as manager of the new plant.

NEW BRUNSWICK

Chatham.—H. W. Mobbs, of Kettering, England, president of the largest last company in the United Kingdom, is looking into the prospect of starting a last-making industry on the Miramichi. If they can get the stumpage at reasonable rates they propose to establish mills to handle 3,000,000 feet of lumber. This would be sawn, shaped and seasoned, leaving only the final operations to be done in England. The lumber required is rock maple.

NOVA SCOTIA

Bear River.—Work has started on the new pulp mill being erected by Clarke Bros., Limited. The buildings will consist of a pulp mill, saw mill, boiler room and machine shop.

Halifax.—The Alaska Bedding Co. of Montreal may erect a factory here. An abattoir is planned by the Maritime Stock Breeders' Association.

Sydney.—A contract for 250,000 tons of ships' plates, involving five years' work and the completion of the erection of a large rolling plant at Sydney, N.S., costing in the vicinity of five millions of dollars, was let recently to the Dominion Steel Company by the federal government, according to an announcement by Hon. C. C. Ballantyne, Minister of Marine.

ONTARIO

Amherstburg.—It is reported that the plant of the Brunner Mond Company has been closed down, to stay so until labor conditions become such that business can be carried on. The plant, which is a subsidiary of the Solvay Process Co. of Detroit and Syracuse, is the largest in this country. Several hundred men are affected by the unexpected development.

Arnprior.—Two additions will be made to the factory of the Arnprior Cabinet Co., Limited. Alterations will be made to F. C. Hyck & Son's factory.

Brantford.—An electric tin smelting plant will be established on property adjoining that of the Verity Plow Co.

The Cockshutt Plow Co. will make extensive additions to their plant. Estimated cost, $100,000.

The Brantford Roofing Co. has commenced construction of an extension to the boiler plant. Estimated cost, $5,000.

The Brantford Scale Co. has awarded a contract for erection of an addition to their present plant. Plans are being prepared to double the capacity of the plant by further additions.

The Cockshutt Plow Co. has commenced construction of an additional storage warehouse, estimated cost, $9,500, and an experimental building, estimated cost, $15,000.

The United Portland Cement Co., Ltd., has been incorporated with head offices at the town of Brantford, to manufacture and sell Portland Cement. The stock of the company is $200,000, divided into 2,000 shares of $100 each.

Electric Tin Products Co. contemplates erecting factory.

Chatham.—The Canadian Des Moines Steel Company, which has the contract for the construction of eight wireless towers in France, received about a hundred applications in answer to their advertisement for riveters, etc., for this work. The work to be done is 820 feet in the air.

Collingwood.—The firm of Edwards & Co., industrial brokers of Toronto, have given the Chamber of Commerce a written statement that if they succeed in financing the proposed industry for the manufacture of hard rubber goods, the industry will be located in Collingwood. Mr. Duff, of Edwards & Co., is selling stock in the proposed industry in Collingwood and the district.

Cooksville.—The Shale Brick Company of Canada, Limited, Toronto, announce they are now operating their plant at Cooksville, Ont., formerly owned by the Ontario National Brick Company, Limited.

Dunnville.—Canadian Engines, Ltd., manufacturers of stationary and portable gas and gasoline engines, grain grinders and saw frames, who were practically closed down during the war, have resumed operations, and are taking on a full complement of men. They report an abundance of business in view and that the prospects are favorable for a busy time throughout the year.

Elmira.—Great West Felt Co. has awarded contract for the erection of a $25,000 factory, to W. Hallman, Galt.

Fergus.—Beatty Bros. plan extensions to their factory to cost in the neighborhood of $35,000.

Galt.—The R. McDougall Co., Ltd., were not seriously inconvenienced by the fire which took place in their plant recently. The machine shop and foundry were uninjured, and the patterns that were burned or injured have been largely replaced. Their deliveries on their usual lines have not been interfered with.

The Galt Brass Company, Limited, have been incorporated with an authorized capital of $500,000 to take over the liabilities and carry on the business of the Galt Brass Company Limited, Galt. They expect to develop and expand the business considerably. The old company was incorporated under a provincial charter, while the new concern has obtained a Dominion charter.

Canada Last Co., of Toronto, has purchased the works of the Preston Chair Co. from the corporation of Galt. The company went into liquidation, owing the municipality the sum of $19,153, and the price paid the corporation by the Canada Last Co. was $21,000, which clears the town of any loss. The new owners will spend a considerable sum in improving the property, and will employ from forty to fifty hands.

Georgetown.—H. Corke & Co., Ltd., have been incorporated with a capital stock of $100,000, divided into 400 shares of $25 each, to carry on the business now carried on by H. Corke & Co., Georgetown, manufacturing woollens and cottons.

Goderich.—The Convertible Tractor Corporation, of St. Paul, Minn., contemplates the erection of a manufacturing plant.

Guelph.—Letters of incorporation have been issued to Charles Lawrence Dunbar, Leo William Goetz and others to acquire the business of oxyactylene welders and machinists formerly carried on in Guelph by R. B. Lang and John Skidmore, and to do business under the style of the Lang Manufacturing Company, with a capital stock of $40,000.

Contracts have been let by the Lang Manufacturing Co., of Guelph, for the erection of a new machine shop to be built on the Harris St. side of their present factory. This is necessary owing to the expansion of their business, which is increasing at a rapid rate. The firm, which conducts a general machine shop business, purpose taking up other lines when they have the new premises available.

Hamilton.—The Garson Brush Co. have let contract for a $6,000 addition to factory.

The Acme Stamping & Tool Co. are making an addition to their plant.

The Dominion Foundry Co.'s plant was closed down for two weeks in July while electric ovens were installed. It is reported that the company intends to operate rolling mills in the course of a couple of months.

A company has been incorporated with a capital stock of $24,000, divided into 240 shares of $100 each, and known as the Canadian Type Registering Scale Co., Ltd., with head offices at Hamilton, to manufacture scales and type registering devices.

Contracts have been let in connection with the erection of an addition to the factory of the Mercury Mills, Limited.

Hanover.—Hanover Portland Cement Co. plans remodelling plant and installing additional equipment.

Hepworth.—A new glove factory may be located here, with natural gas as the motive power.

Ingersoll.—The Royal Broom Co. will start operations as soon as the necessary repairs are made to factory.

Kitchener.—A new packing plant and abattoir will be erected on Guelph St., by Dumart Bros. Estimated cost, $75,000.

The Lang Tanning Co. proposed to make a considerable addition to their plant. This will consist of two buildings each 100 by 200 feet, four-storey brick construction. The present staff, which numbers about 200, will be increased to 300 and possibly more when the new buildings are ready.

The Canadian Consolidated Rubber Company will spend $1,000,000 on improvements and additions to their plant for the purpose of increasing their output.

The Dominion Tire Co., 149 Strange St., will erect a $150,000 addition to their factory.

The F. W. D. Auto Co. will commence construction of their new factory in the east end of the city as soon as they receive definite information on the new location of the Grand River Railway. J. Cotton, Clintonville.

Leamington.—The Imperial Tobacco Co., 900 St. Antoine St., Montreal, have awarded contract for a $125,000 factory here to a firm of Toronto contractors.

London.—An addition will be made to the factory of W. A. Jenkins & Co., Ridout and King Streets, and a contract has been let for the purpose.

The C. S. Hyman Co., tanners, will erect new building on George St.

A $500,000 factory for the Republic Motor Truck Co., Alma, Mich., is contemplated.

Contract has been let for a $250,000 factory for the Holeproof Hosiery Co. of Canada, Limited.

An addition costing about $80,000 will be made to the factory of the Murray Shoe Co., Limited, Richmond Street.

Niagara Falls.—Hamilton Lindsay, Alexander Winton, George Hayes Brown and others of Cleveland, Ohio, have incorporated the Niagara Wire Weaving Company with place of business at Niagara Falls, and a capital of $220,000, for the purpose of manufacturing wire cloth.

Oshawa.—The Canadian Stewart Co. have been awarded the general contract for the million dollar plant of General Motors of Canada, Limited. This will include assembling building, four storeys, 80 x 40, reinforced concrete construction; shipping building, 200 x 80; storage building, 800 x 80, 4 storeys; enamelling building, 300 x 80, 3 storeys.

Paris.—Charles E. Wheeler & Son, are putting in an equipment of all kinds of different types of machines to manufacture Banner and Scott & Williams type of needles and also double hook needles. When completed, this firm will have machinery enough to turn out in the neighborhood of half a million needles per month. This quantity of course includes their other types of latch needles which they are manufacturing in all gauges. They expect to employ approximately one hundred and twenty-five hands. The equipment will be in within three months and will be producing solid butt needles at that time, thus doubling the capacity of the plant.

Peterboro.—The Albion Knitting Co. plans alterations to its factory.

Picton.—A new factory will be built by Kinney & Colliver on Barker St.

Port Colborne.—It is expected that tenders will be called soon on a potash recovery plant worth $150,000 for the Canada Cement Co.

St. Mary's.—Mills are to be erected by the St. Mary's Milling Company.

Sarnia.—The Premier Paper Products, Ltd., have been incorporated with head offices at Sarnia. The capital stock will be $650,000 in 500 shares of $100 each. The object of the company is to manufacture and deal in paper cardboard and other products of paper or pulp, and engage in a general lumber business.

Sault Ste. Marie.—The extension of the rail mill of the Algoma Steel Co.'s plant, which was announced several weeks ago, and which will cost several hundred thousand dollars, is but the beginning of an extensive development of the plant, it is stated. The whole plan laid out by the officials of the company involves an expenditure of from five to seven million dollars, and includes the production of structural steel shapes of all kinds and sizes.

Sharbot Lake.—A creamery will be erected here by the Belleville Creamery Limited, 118 Front Street, Belleville.

Strathroy.—R. M. Pincombe of Strathroy has purchased the property belonging to the estate of the late John Mills, adjoining the G.T.R., and will erect a flour mill having a capacity of 250 barrels per day. The mill will be operated by hydro power, and be thoroughly up-to-date in its equipment. The grain elevator will be moved from its present position to a site adjoining the new mill.

Thorold.—The expenditure of a sum of $2,500,000 is contemplated by the Beaver Wood Fibre Company in the expansion of the Thorold plant, as well as building a duplicate of the Ottawa plant to take care of the increased Canadian and export business.

Toronto.—The Jefferson Glass Co. are planning to make certain extensions to their plant.

The Canada Petroleum and Refining Co. has been incorporated with head offices in Toronto. The capital stock of the company is to be $2,500,000, divided into 2,500,000 shares of $1 each, and the object of the company is to carry on a general business in crude petroleum and its products.

Small additions are being made to the plant of the Wm. Wrigley, Jr. Co., on Carlaw Ave. and A. R. Clarke & Co. on Eastern Ave. Brown's Bread Limited, will make addition to bakery at 462 Eastern Ave. Alterations and an addition will be made to the factory of the Toronto Carpet Mfg. Co., 1179 King St. W.

The Anthracite Briquette Company will start building immediately on the new industrial site of the Toronto Harbor Commission a factory for the making of compressed anthracite briquettes. Large supplies of waste anthracite have been secured, and the plant will have at first a capacity of ten tons per hour. The rights of a patented binder have been secured from the United States. The use of these briquettes will, it is claimed, make a big saving in the cost of fuel.

The Blatchford Calf Meal Co., of Waukegan, Ill., is establishing a factory in Toronto, and will operate under the name of Blatchford Calf Meal Co. of Canada, Ltd. J. W. Barwell, president, Waukegan, Ill. Details regarding the Canadian plant are being arranged by the company's vice-presidents, W. L. Blows and H. C. Burnette, Waukegan, Ill.

The John Wood Manufacturing Company of Conshohocken, Pennsylvania, have purchased the plant of the Holden-Morgan Thread Miller Company on Coxwell Avenue, Toronto, comprising three and three-quarter acres, with two large mill buildings and several smaller ones, and will engage in the manufacture of welded range boilers, storage tanks, gasoline tanks and similar goods. It is their intention to begin work as speedily as possible, and they expect to be in production early in September.

Contracts have been let for a $50,000 plant for the Anchor Cap and Closure Corporation of Canada, 50 Dovercourt Road.

Walkerville.—The American Auto Trimming Co. will erect a five-storey addition to their plant at a cost of about $160,000.

The Peabody Manufacturing Co., Ltd., will erect a $500,000 textile plant here.

Windsor.—Plans have been prepared for a factory to cost about $30,000 for B. N. Marsh.

QUEBEC

Clarke City.—The Gulf Pulp and Paper Co., Ltd., will soon erect addition to plant.

Montreal.—The Laval Industrial Co. contemplates the erection of stamping works to cost $25,000.

The Dominion Oilcloth Co., 1192 St. Catherine St. E., has awarded the contract for a $30,000 warehouse to J. Meloche, 1911 Masson St.

The Anglo-American Wire Rope Company, Montreal, has been incorporated with a capital stock of $200,000 by Alexander Chase Casgrain, Errol McDougall, Leslie G. Bell and others to manufacture wire and wire products. Supplementary letters-patent have been issued authorizing the change of title to the "Anglo-Canadian Wire Rope Company, Ltd."

The United States Rubber Co., of Canada, Ltd., has been incorporated with a capital stock of $20,000,000, divided into 200,000 shares of $100 each, the head office to be in Montreal. The company will manufacture and deal in all kinds of rubber goods. The principals are Alexander Chase Casgrain, Errol Malcolm McDougall, Leslie Gordon Bell, Sadie Conrad Demers, and Edward James Waterson.

Contract has been let for a $12,000 foundry building for Canadian Steel Foundries, Limited.

Contract has been let by the Tetrault Shoe Mfg. Co. for a factory building costing $85,000.

Smardon Shoe Co., Ltd., 533 Visitation St., is having plans prepared for a factory. Work expected to proceed within a month.

Milton L. Hersey, Henry H. Vaughan, Walter A. Jannsen and others have taken out letters of incorporation as the General Combustion Co. of Canada, with headquarters at Montreal, with nominal capital of $100,000, with the intention of manufacturing electric furnaces and electric heating devices, etc.

The recent reorganization of the St. Lawrence Welding Co., of Montreal, places the control of the company in the hands of W. H. Barry and A. M. Barry, president and general manager respectively; F. E. Fox being appointed a director and secretary-treasurer. L. E. Moulton is also a director of the new firm. The plant here has been enlarged and a well-equipped machine shop added to carry out the complete repairs of all welded work. A staff of boiler makers is, likewise, a part of the new organization. Every class of welding work is carried on and the firm make a specialty of oxy-acteylene and electric welding repairs. They have recently purchased a new portable electric equipment for operations between Halifax and Montreal. During the present season a brisk business has been carried on, considerable repairs having been performed to the troop ships entering Halifax.

Maisonneuve.—The Anglin Norcross Co., 65 Victoria St., Montheal, has been awarded the contract for $20,000 warehouse for the United Shoe Machinery Co.

Quebec.—Plans are being prepared for a $500,000 factory for the Marceau Oil Cloth Co.

St. Hyacinthe.—The Casavants Phonograph Co. plans extensive alterations and additions to factory.

St. Lambert.—Contract has been let by the L. E. Waterman Co., Limited, for $100,000 factory and office building.

Sherbrooke.—Contract has been let for a factory to cost $50,000 by the Dominion Cartridge Co., Limited.

Three Rivers.—The Three Rivers Shipyard Co., have started work on a new machine shop on Notre Dame St. Frame and brick.

SASKATCHEWAN.

Melfort.—The Saskatchewan Co-operative Creameries, Limited, are erecting a $50,000 creamery here.

Regina.—A warehouse costing $75,000 will be erected here by the Goodyear Tire & Rubber Co. of Canada.

Saskatoon.—Contract for the new elevator for the Quaker Oats Co. has been awarded to the Leonard Construction Co. It is to be of reinforced concrete throughout, and construction will commence about August 1st.

Blocks of Electrical Power Available For Sale in Canada, January 1, 1919

FROM

Census of Electric Power Stations

Prepared by Dominion Water Power Branch of the Department of the Interior in co-operation with the Dominion Bureau of Statistics.

BRITISH COLUMBIA

Company or Municipality.	Address.	Primary power.	Block of power for sale.	Rates.	Accessibility to Transportation.
Kamloops (Municipality)	Kamloops, B.C.	Water	1,000 h.p.	1 to 2c. per k.w. hr.	Adj. to C.P. Ry. and C.N. Ry.
Kelowna (Municipality)	Kelowna, B.C.	Fuel	250 k.w.	4 to 9c. per k.w. hr., disc., 33⅓%	Adj. to Okanagan lake, navigation.
Nelson (Municipality)	Nelson, B.C.	Water	1,000 k.w.		Adj. to C.P. Ry.
Revelstoke (Municipality)	Revelstoke, B.C.	Water	350 k.w.	⅛ to ¾c. k.w. hr.	Adj. to C.P. Ry.
Salmon Arm (Municipality)	Salmon Arm, B.C.	Fuel	70 k.w.	8 to 16c. k.w. hr.	Adj. to C.P. Ry.
Spence's Bridge Electric Light & Power Co.	Spence's Bridge	Water	150 h.p.		Adj. to C.P. Ry. and C.N. Ry.
Western Power Co. of Can., Ltd.	Vancouver, B.C.	Water	7,500 k.w.	$12 to $20 per k.w.	Adj. to C.P. Ry., C.N. Ry., G.N, Ry., N.P. Ry. and ocean navigation.
Vernon (Municipality)	Vernon, B.C.	Fuel	400 k.w.	5 to 1½c. per k.w. hr.	Adj. to C.P. Ry.
British Columbia Electric Railway Co., Ltd.	Vancouver, B.C.	Water	54,200,000 k.w. hrs.	2 to ½c. per k.w. hr.	Adj. to Esquimalt & Nanaimo Ry., C.N. Ry., Victoria & Sydney Ry., ocean navigation,

ALBERTA

Calgary (Municipality)	Calgary, Alta.	Fuel	10,000 h.p.	2 to ¾c. k.w. hr.	Adj. to C.P. Ry., C.N. Ry., and G.T.P. Ry.
Calgary Power Co., Ltd.	Seebe, Alta.	Water	14,000 h.p.		Adj. to C.P. Ry,, C.N. Ry. and G.T.P. Ry.
Lethbridge (Municipality)	Lethbridge, Alta.	Fuel	1,000 h.p.	6 to 2c. k.w. hr.	Adj. to C.P. Ry.
Vermilion (Municipality)	Vermilion, Alta.	Fuel	200 k.w.		Adj. to C.N. Ry.

SASKATCHEWAN

Arcola Light & Power Co.	Arcola, Sask.	Fuel	100 h.p. day load		Adj. to C.P. Ry.
Davidson (Municipality)	Davidson, Sask.	Fuel	100 k.w.	$2 per h.p. per month	Adj. to C.N. Ry.
Humboldt (Municipality)	Humboldt, Sask.	Fuel	150 h.p.	10 to 5c. per k.w. hr.	Adj. to C.N. Ry.
Kindersley (Municipality)	Kindersley, Sask.	Fuel	55 k.w.	12½ to 16c. per k.w. hr.	Adj. to C.N. Ry.
North Battleford (Municipality)	N. Battleford, Sask.	Fuel	400 h.p.		Adj. to C.N. Ry.
Regina (Municipality)	Regina, Sask.	Fuel	5,000 k.w.		Adj. to C.P. Ry., C.N. Ry., G.T,P. Ry.
Saskatoon (Municipality)	Saskatoon, Sask.	Fuel	1,000 k.w.	1 to 5.4c. per k.w. hr.	Adj. to C.P. Ry., C.N. Ry., G.T.P. Ry.
Swift Current (Municipality)	Swift Current, Sask.	Fuel	600 k.w.	5 to 2c. per k.w. hr.	Adj. to C.P. Ry.
Weyburn (Municipality)	Weyburn, Sask.	Fuel	150 k.w.		Adj. C.P. Ry., G.T.P. Ry,

MANITOBA

Neepawa (Municipality)	Neepawa, Man.	Fuel	50 k.w.	9 to 4c. per k.w. hr.	Adj. to C.P. Ry. and C.N. Ry.
The Pas (Municipality)	The Pas, Man.	Fuel	100 k.w.	9c. per k.w. hr.	Adj. to C.N. Ry.

NEW BRUNSWICK

Edmundston (Municipality)	Edmundston, N.B.	Water	150 h.p.	6c. per k.w. hr.	Adj. to C.P. Ry., Can. Govt. Ry. and Temiscouata Ry.
Richibucto & Rexton (Municipalities)	Richibucto, N.B.	Water	160 h.p.	6c. per k.w. hr.	Adj. to Kent Northern Ry.
The Eastern Electric & Development Co., Ltd.	Sackville, N.B.	Fuel	Power available for sale	10 to 3c. per k.w. hr.	Adj. to Can. Govt. Rys.

NOVA SCOTIA

Canada Electric Co., Ltd.	Amherst, N.S.	Fuel	300 h.p.		Adj, to Can. Govt. Rys. and Maritime Coal Ry. and Power Co. Ry.
Daley's Electric Light Plant	Digby, N.S.	Fuel	100 h.p.		Adj. to C.P. Ry. and Bay of Fundy navigation.
Nova Scotia Tramways & Power Co., Ltd.	Halifax, N.S.	Fuel	3000 h.p.	8c. per k.w. hr., 25 to 55% disc.	Adj. to C.P. Ry., C.N. Ry., ocean navigation.

ONTARIO

Company or Municipality.	Address.	Primary Power.	Block of power for sale.	Rates.	Accessibility to Transportation.
St. Lawrence Power Co., Ltd.	Cornwall, Ont.	Water	1,000 h.p. 6 p.m. to 6 a.m		Adj. to G,T. Ry., N.Y. & Ottawa Ry., C.P. Ry., St. Lawrence River navigation.
Stormont Electric Light & Power Co,, Ltd.	Cornwall, Ont.	Water	100 h.p.		Adj. to G.T. Ry., C.P. Ry., N.Y.C. Ry., St. Lawrence navigation,
Dunnville (Municipality)	Dunnville, Ont.	Hydro	300 h.p.	$33 per h.p.	Adj. to G.T. Ry., and T.H. & B. Ry.
Fenelon Falls (Municipality)	Fenelon Falls	Water	275 h.p.	$10 per h.p.	Adj. to G.T. Ry. and Trent Canal navigation.
Kaministiquia Power Co., Ltd.	Fort William	Water	10,000 h.p.	$25 per h.p.	Adj. to Can. Govt, Ry., C.P. Ry. and Great Lakes navigation.
The Galetta Electric Power & Milling Co., Ltd.	Arnprior, Ont.	Water	300 h.p.	$20 to $25 per h.p.	Adj. to C.P. Ry. and G.T. Ry.
Hawkesbury Electric Light & Power Co., Ltd.	Hawkesbury, Ont.	Water	1,500 h.p.	$25 to $30 per h.p.	Adj. to C.P. Ry., G.T, Ry., C.N. Ry., Ottawa River navigation.
Kenora (Municipality)	Kenora, Ont.	Water	Power available		Adj. to C.P. Ry.
The Mattawa Electric Light & Power Co., Ltd.	Mattawa, Ont.	Water	150 h.p.		Adj. to C.P. Ry.
Orillia (Municipality)	Orillia, Ont.	Water	2,500 h.p.	$20 per h.p. to $15 per h.p.	Adj. to C.P. Ry., C.N. Ry., G.T. Ry,, Trent Canal navigation.
Parry Sound (Municipality)	Parry Sound, Ont.	Water	175 h.p., day and off peak load	$7 per h.p.	Adj. to G.T. Ry., C.P, Ry., C.N. Ry., Great Lakes navigation.
Pembroke Electric Light Co., Ltd.	Pembroke, Ont.	Water	1,200 to 1,500 h.p.	$18 per h.p.	Adj. to C.P. Ry., G.T. Ry. and C.N. Ry,
Renfrew (Municipality)	Renfrew, Ont.	Water	200 h.p.	$20 per h.p.	Adj. to C.P. Ry. and G.T. Ry.
Sauble Falls Light & Power Co.	Wiarton, Ont.	Water	50 h.p.	$12 per h.p.	Adj. to G.T. Ry. and Great Lakes navigation.

QUEBEC

The Amqui Electric Co.	Amqui, Que.	Water	300 k.w.	$30 per k.w.	Adj. to Can. Govt. Rys.
Coaticook (Municipality)	Coaticook, Que.	Water	100 h.p.	$20 per h.p.	Adj. to G.T. Ry.
Farnham (Municipality)	Farnham, Que.	Water	530 h.p.	$20 per h.p.	Adj. to C.P. Ry. and Cent. Vermont Ry.
Grand Mere (Muuicipality)	Grand Mere, Que.	Water	Power available		
Hull Electric Co.	Hull, Que.	Water	1,200 h.p. in May, 1920.	$15 to $20 per h.p.	Adj. to C.P, Ry., G.T. Ry., C.N. Ry., N.Y.C. Ry. and Ottawa River navigation.
The Ottawa & Hull Power & Manufacturing Co.	Ottawa, Ont.	Water	1,000 h.p.	$15 per h.p.	Adj. to C.P. Ry., G.T. Ry., C.N. Ry., N.Y.C, Ry. and Ottawa River navigation.
Basin Electric Light & Power Co., Ltd.	Montmagny, Que.	Water	50 h.p.		Adj. to Can. Govt, Ry. and St. Lawrence navigation.
Montreal Light, Heat & Power, Consolidated	Montreal, Que.	Water	Power available		Adj. to all railways entering Montreal.
Southern Canada Power Co.	Montreal, Que.	Water	Power available	$40 to $25 per k.w.	Adj. to C.P. Ry., Can. Govt. Ry., G.T. Ry., Cent, Vt. Ry., Que. Cent. Ry., B. & M. Ry.
National Hydro-Electric Co., Ltd.	Montreal, Que.	Water	200 h.p.		Adj. to C.P. Ry., Ottawa River navigation.
St. Jerome (Municipality)	St. Jerome, Que.	Water	250 h.p., day service	$35 per h.p.	Adj. to C.P. Ry., C.N, Ry.
Sherbrooke (Municipality)	Sherbrooke, Que.	Water	6,900 h.p.		Adj. to C.P. Ry., G.T. Ry., B. & M. Ry, Que. Cent, Ry., Maine Cent. Ry.

***NOTE*—FOR DETAILED INFORMATION APPLY TO THE COMPANY OR MUNICIPALITY CONCERNED**

Canadian National Exhibition

In the forty-one years' history of the Canadian National Exhibition, it is reported that prospects were never brighter and it is felt that the million attendance record, which has not been touched since 1913, will inevitably be broken, particularly in view of the fact that H.R.H. The Prince of Wales has graciously consented to preside over the opening ceremonies and to remain in the city for three days, August 25th, 26th and 27th.

The setting for the reception to the Soldier Prince will have a truly khaki tinge. A captured German U-boat is expected, while housed in the Fine Arts Gallery will be Canadian War Memorials paintings, the art sensation of the world at the present time. These pictures constitute unquestionably the most artistic record of any country's share in the great war, and the most significant manifestation of artistic activity during that time.

The Canadian Government is, with the Ontario Government, co-operating to make the event a memorable one. It is intended to eventually establish a war museum at Ottawa, but as Canada has over 450 big guns, captured from the Germans in her possession, scores of aeroplanes and thousands of rifles, machine guns, and other souvenirs of the Great War, it will be impossible to house them all in one building, so it has been decided to distribute many of the large pieces to cities throughout the Dominion. Toronto has been selected as the distribution depot, and the trophies are being assembled here as they come from overseas. It is the intention of the Government to display the entire collection at the Canadian National Exhibition before the final allotments for the museum and various municipalities are made.

The forthcoming visit of the Prince who won such great popularity amongst the Canadian soldiers overseas has stirred every interest connected with the Exhibition to unprecedented efforts. The "festival" will extend over thirteen days and promises to reflect the national expansion and civic development, and will above all, endeavor to give expression to the victory spirit.

Important structural and other improvements for the benefit of exhibitors, recommended by the manufacturers' representatives on the Exhibition Executive were carried out during the past year, and further important extensions are contemplated.

Correspondence

Veterinary Biological Products

Toronto, July 30th, 1919.

Editor, INDUSTRIAL CANADA, Toronto:

In the July number of INDUSTRIAL CANADA there appeared an article by Mr. Lyman B. Jackes entitled "A Chance for a New Industry in Canada."

There are certain notable omissions in the article in question. In the first instance, the impression is conveyed that a very broad market for veterinary biological products exists in Canada, and that some of these products are not at present prepared in Canada. To be quite specific it is stated: "the material listed as tetanus antitoxin used for the treatment of tetanus or lockjaw in horses, sells for three dollars for five thousand units." This statement is only partially correct, in two essential particulars—tetanus antitoxin is manufactured in the United States and is imported into Canada and probably is sold at the price mentioned, but what is more to the point is that tetanus antitoxin is prepared in the Connaught Antitoxin Laboratories of the University of Toronto, and is sold for one dollar and a half for five thousand units, just one half the price mentioned by the author of this article.

The Connaught Antitoxin Laboratories were established in 1914. Complete laboratories and stables, erected on a farm in York township, a gift of Colonel Albert Gooderham, of Toronto, to the University, were opened by His Excellency the Governor-General in October, 1917. These laboratories prepare and distribute public health biological in every province in Canada and in Newfoundland.

Tetanus antitoxin is amongst the products prepared and distributed, and these laboratories constantly supply veterinarians at the price mentioned above. This product is used both in man and animals.

In conclusion, it is highly desirable for anyone who contemplates acting upon the advice of the writer of the article in your July number to more fully inform himself than he can possibly do by simply reading Mr. Jackes' article before launching forth in a field which is beset with many difficulties, which, to one not possessed of adequate technical training, are very serious indeed.

It would be a great pleasure for the Director of the Connaught Antitoxin Laboratories, University of Toronto, and the Pathologist, Health of Animals Branch, Department of Agriculture, Ottawa, to fully lay before anyone contemplating entering this field, the exact situation at present in Canada in regard to this question.

J. S. FITZGERALD,
Director, Connaught Antitoxin Laboratories.

Good Health and "Getting On"

By F. W. HARDING

What a subject for a Master Physician to write about, especially if he is a lover of his fellow man. One can only give to the world useful service in proportion to his capacity of brain and body. To give the most, both must be kept in the best condition, and one without the other is of small account; therefore, the care of the body is of prime importance. Its condition should be checked up just as you would an automobile. Unless the brain we possess is supported vigorously by the body, it cannot put forth its full power.

Our bodies compare very closely with a steam boiler and engine, for while they require coal for fuel, our fuel is food. With good coal, and with engine and boilers in good shape, we can get from the apparatus all that it was designed for, and so with men if the body is well and the food is right. Good coal supplied to a run-down engine and boiler fails of its best efforts; also poor coal with a good engine and boiler fails to give a good return. Just so with us, if our selection of food is poor and if it is not digested properly, the system becomes clogged and many evils result. The body must be tended carefully and never abused, if we want to keep it in condition for its purpose of supporting the brain.

Importance of Good Teeth

Our mouths are our furnace doors, and we have an apparatus therein similar to a coal-breaker, our teeth. Their office is to help prepare our food for assimilation. No one can be well with poor teeth. How important then that they be taken care of. Poor, decaying teeth are a real menace to our health, and there is no doubt that many promising careers have fallen short of fulfillment because of bad teeth. Not only does it prevent perfect mastication of food, but the decaying matter is absorbed into the system. Pus formed at the roots of teeth poisons our blood and causes many ills of which rheumatism is one. When the blood is bad our brains are not clear; they are sluggish and incapable of great or sustained effort. Get the teeth examined now and regularly at least every six months afterward.

The eyes are often an unsuspected source of trouble. Sick headaches, irritability and other nervous disorders are sometimes directly traceable to eye defects, although the defects may not be great. Go to the oculist and *find out* if you need help. You pay life insurance religiously for the benefit of your dear ones, but the dentist and oculist are your own physical insurance towards success, and of even more importance than the other. All of nature's channels must be kept free and clear. Avoid wet feet and even damp feet. Because the soles of your shoes are thick is no guarantee that they are damp-proof. Modern treatment of leather

FOR SALE: MANUFACTURING SITE, with Brick and Steel Building 100′ x 300′. Partly equipped. 7½ ton overhead Electric Crane 40′ span 100′ runway. 150 H.P. Corlis Engine. 300 H.P. Steam. Suitable for foundry, machine or boiler shop. Good central Ontario town. Lake and Rail shipment. Labor situation first class. A snap.

C. P. WILSON CO.

509 Lumsden Building TORONTO

thickens up a thin piece of leather like a sponge. Wear low rubbers unless slushy. Low ones do not "draw."

A well man is inclined to go beyond his capacity if ambitious, especially in brain work, and enroach upon his nerve reserve. Sleep is the great remedy for that. The lack of proper sleep tends to lethargy and irritability. Is it fair to yourself to hazard your chances of success in dissipation? It is not fair to your employer either, for his success, and yours as well, depend upon a fair return for the money he invests in your skill.

A man may have a perfectly well body, but a diseased imagination which has, by lack of control, become filled with evil thoughts; vanity, envy, malice, and a host of others of like character lodge in a mind willing to receive them. The actual effect of such thoughts is disastrous. Your face and eyes show that you have them, and you are not trusted. They are easily eliminated if you will do it. Pleasant thoughts stimulate mental and bodily activity, while bad ones send a message of discouragement from the brain down to the stomach, and if the message is bad enough it will actually prevent digestion, for there is a direct nerve connection; ask your doctor.

When all this is done we begin to like ourselves, and others like us better. We become successful in the greatest sense, for we become men, capable of trust and confidence. It may not result in great money-getting, but it ought to, for it points that way. At any rate we are likely to live longer and happier, and remain efficient to the end.

Two Bowser Publications

S. F. Bowser & Co., Inc., Fort Wayne, Ind., and Toronto, Canada, send out attractive folders illustrating and describing a number of the Bowser systems for handling oil, gasoline, etc. These include tanks, pumps, registering measures, etc. The folders are admirably illustrated and give at a glance a very good idea of the various machines. The advantages pointed out in the use of these products are the prevention of waste, both of material and of time, and the protection against fire or explosion.

C.C.M. Bicycles

From the Canada Cycle & Motor Co., Limited, comes a small booklet telling about the various C.C.M. bicycle models and parts. Each model and all the individual parts are clearly illustrated and described. In addition the booklet tells something about the company and its policy and pictures and describes the factory at Weston where C.C.M. bicycles are made.

Smoking in Factories

Danger of the Practice Discussed Before the State Industrial Commission in New York

An important hearing on fire prevention was recently held in New York City, before the State Industrial Commission. The danger of fire caused by smoking in factories was discussed by several witnesses. One authority made the suggestion that the regulations prohibiting smoking in factories be extended to 24 hours a day, so that an employee could not smoke until he left the building. This authority also emphasized the danger of fire caused by employees lighting cigarettes and cigars as they were leaving the factory, and carelessly throwing the lighted match aside. Discontinuance of celluloid eye shades was also advocated, because they were so inflammable. Several instances were cited where eyeshades had caught fire and the wearer had been severely burned. It was pointed out that eyeshades of this kind were not only a danger to the wearer, but to his fellow-workmen as well.



The Reminiscences of an old Time Recorder

HOW I Got My Job, WHAT I Did for My Employer in Fifteen Years, and WHY It Was to His Interest to REPLACE Me

AS TOLD BY AN OLD INTERNATIONAL RECORDER

Here is an article written by Frank E. Mutton, worthy of deep thought. You owe it to yourself and to your business to read and study it carefully.



Frank E. Mutton

ONE day a few weeks ago I had occasion to step into our shop. It was six o'clock in the evening, and I was alone. As I passed on through the Service Room I heard the tick-tocks of some twenty different Time Recorders, and I also heard the noise of the jumping of the hour wheels.

I was in a pensive, meditative mood, and it occurred to me that the noises I heard were the language of our Time Recorders. Suddenly I was able to understand them, so I stepped over to an old International Recorder, recently taken in exchange and replaced by a No. 111-AR International Dial Recorder. He was tick-talking as cheerfully and pleasantly as in the days of his youth. While his clothes were soiled and battered, his face was clean and bright, and his hands were as steady and strong as ever.

I asked him to tell me something about himself. He replied, "It took a good salesman, who worked very hard, a long time to get me my job. I worked steadily for over fifteen years in one factory. On the average, about 125 men and women used my services every working day during all those years.

"I helped all of them obey the rules. I taught all of them the value of Time. As soon as I got on the job I put an end to all pay-day disputes and I have always handed out a Square Deal to every one with whom I came in contact.

"During my full period of employment my conduct was above reproach. I worked faithfully every day and night. I played no favorites and I always told the plain, simple truth at all times. I helped the timekeeper, the foreman, the paymaster, the cashier and the auditor.

"It surely saddened my heart to submit to retirement, for even though I realize I am old fashioned, still, I liked my job; my work was easy for me, and I was well liked by everyone worth while. There were a few exceptions, of course, but they were people who had but little respect for themselves and for whom I had no respect at all. They simply would not obey the rules of business, and when I told the manager about them, he was, of course, forced to dispense with their services.

"A young brother of mine has taken my old job, and I am proud to say he is much more capable than I. He has had the advantages of a more modern and thorough education, and he can do many things in the way of saving time, money and work that I used to think could never be done. My old boss was much pleased to employ my brother, and so, after all, as long as a member of my own family is succeeding me I am perfectly satisfied to retire.

"In my fifteen years' service I have made over 2,812,000 original time records, and just think of all I have really accomplished, even with my old fashioned methods. I have accurately accounted for more than 5,062,000 hours, and I have fully protected an expenditure of more than $1,771,000.00.

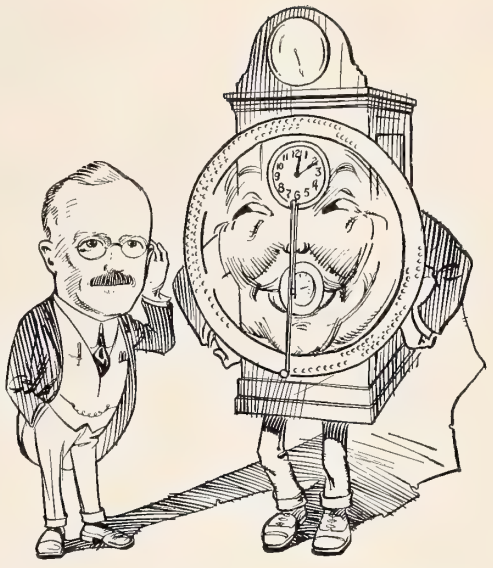
"All my employer had to pay for this work, including my first cost and the maintenance expense for the full fifteen years, was a little less than $300.00. I know I have served my employer with great profit and full satisfaction to him, and I feel certain I have upheld the tradition of my ancestors with all honor and full credit."

I thanked the old International Dial for the interesting story of his career, and I then walked over to an old Bundy Key Recorder. He was so old and decrepit he could scarcely speak above a whisper. He told me he also had rendered many long years of faithful service.

He said he was one of the oldest members of the International family. He told me he had, in his own humble way, tried to start off his young relatives in the right direction, and even then it was very hard work in the beginning. He felt certain he had helped pave the way for the great success the younger generation is enjoying at this time.

Just then a brand new International Dial Weekly Recorder spoke up. He said: "I want you to take a message down to the Employers at large for us. I have been so anxiously awaiting this opportunity to express myself. I am just longing to tell all the people in my own words who we are, what we have done, and what we are continuing to do for the world's business.

"My older brothers have made me what I am, and I ask the privilege of being their spokesman. Ask the Employers to please accept this message from us, which, in short, is this—no matter what they charge you for us, we will remain the best employee you ever hired. The most constant, the most reliable, a creator of harmony and security, and my cost is—practically nothing—except to those who try to do without me—and then the cost is abnormal."



"I protected an expenditure of $1,771,000"

The International Creed

We are International Time Recorders—Servants of all peoples.

Our Ancestry dates back over Thirty Years.

We are Well Bred and Well Built for the tasks we perform.

We are the First of Our Race and have always been First in the Race of our Kind.

Our Policy is Progress—Our Creed is Punctuality—Our Mission is to promote the interests of every business and of every man and woman in business.

Our Ceaseless Service is Equalizing the Energies and Earnings of millions of workers in all lines of endeavor—Everywhere.

Our unbiased vigilance Protects the Worker and Corrects the Shirker—It transforms Idleness into Activity—It fills the Time Schedules of Commerce with Cheerful, Willing Co-operation—It Enhances the value of Time and Decreases the Cost of Labor by Increasing Production.

Our Duties are Righteous—Our Authority is Recognized.

In the true and unvarying language of the sun, we attest the Beginning and End of Effort and Achievement.

To ignore us is NEGLIGENCE—To doubt us is HERESY—To fear us is FOLLY—To trust us is WISDOM—to EMPLOY US IS SECURITY.

There is an International Time Recorder for every business where there are employees

---

International Business Machines Co., Limited

(Time Recorder Division)

Head Office and Factory:
TORONTO, ONT.

Also at
Montreal, Winnipeg, Vancouver

FRANK E. MUTTON
Vice Pres. and Gen. Mgr.

(We also make Dayton Scales and Hollerith Electric Tabulators)

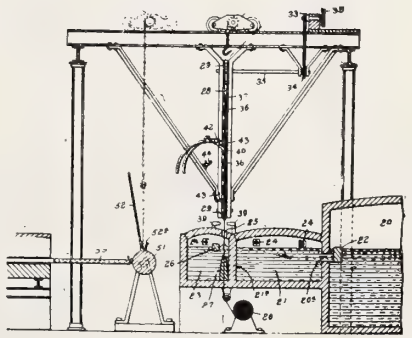
PATENTS FOR SALE

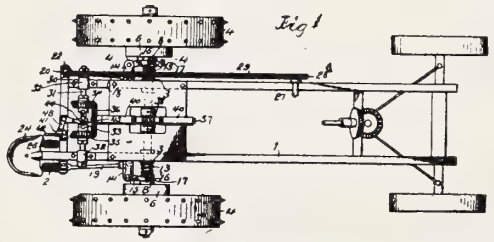
Patent applications through

Harold C. Shipman & Co.

Patent Attorneys - Ottawa, Canada

METHOD OF SEPARATING AND DRAWING SHEET GLASS whereby the glass will be drawn directly from a mass of molten or plastic glass to eliminate the difficulties now found in forming sheet glass and decreases the cost of labor and time required. For further particulars, apply to Mr. Thos. H. Chadwick, Arnold, Westmoreland Co., Pa., U.S.A.

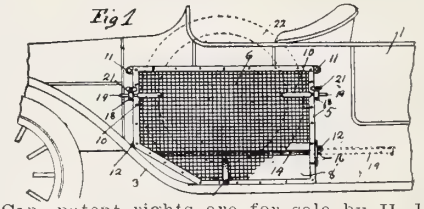




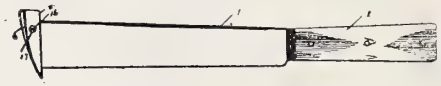
TRACTORS, specially constructed to operate on short turns, simple in construction, powerful and distributes the strain equally between the driving wheels. Can patent rights for sale. Hillis A. Harrah, 1107 Broadway, Kansas City, Mo., U.S.A.

FOOD PRODUCT.—Miss Fannie E. Pierson, Gravity, Iowa, has recently invented a new form of corn product. The article is one which contains a very large amount of nourishment and food value, and has been mentioned by experts as being one of the best corn products ever offered for public use. For further particulars, apply to the inventor, who offers Patent Rights in Dominion for sale.

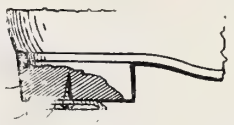
PARCEL CARRIER FOR AUTOS. This device provides a simple and efficient attachment, forming a combined tire, tool and baggage carrier in one. Can. patent rights are for sale by H. L. Biegert, Montevideo, Minn., U.S.A.



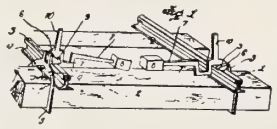
KNIFE GUARD adapted to be secured to the end of a butcher's knife, so that he may easily and quickly extract portions from the interior of an animal without fear of puncturing the intestines. Canadian patent rights for sale by Harry O. Sebring, Box 452, International Falls, Minn., U.S.A.



HEEL-PLATE designed to prevent slipping upon ice or other surface. This article may be worn at all times without detriment to smoothly polished floors, carpets or rugs. It is at all times free to rotate upon the heel and easily detached therefrom and readily applied when desired. Can. Patent rights for sale. Milton S. Campbell, 320 Water St. East, Elmira, N.Y.

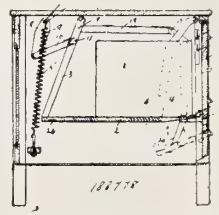


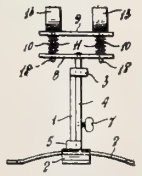
RAILROAD TIE HOLDER, embodying simplicity, cheapness, ease of application and efficiency in operation. The article is one in which every railroad company should be interested and the inventor, Mr. Oscar De Long, of Conesville, Ohio, U.S.A., is open to negotiations with a responsible company for the manufacture of this article in the Dominion.



LUTING OR CEMENTING COMPOSITION for successfully mending copper, brass, agate, granite, nickle, and in fact all compositions of metal or crockery and is the first of its kind to be truly successful, and in view of the soaring prices of metals and the inferiority of utensils, its place as a necessity is assured. The inventor, Mrs. D. H. Reimuller, Rock River, Ohio, U.S.A., offers patent rights in the Dominion for sale.

DESK OR CABINET FOR DISAPPEARING TYPEWRITING MACHINE, having a new and improved method of raising or lowering the typewriter as desired which is obtained by having the parallelogram-shaped guides used for supporting the machine connected to the door of the case in which the machine is installed when not in use in such a manner that when the machine is raised the door moves backward under the supporting board of the machine in the case. Can. Patent rights for sale by Johannes Tacoma, N.Z., Voorburgwal 227-237 en 239, Amsterdam, Netherlands.





MILKING MACHINE, strong, durable, efficient in use, cheap to manufacture, and so constructed that it will not hurt or in any way injure the animal while in operation. For further particulars apply to Stephen B. Sefleet, Pironyia Waikato, Auckland, N.Z.

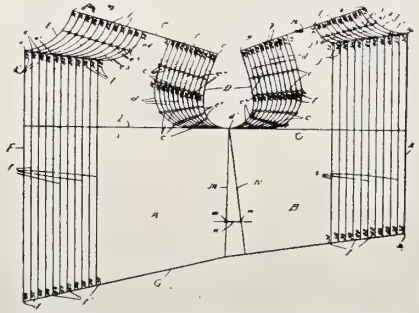
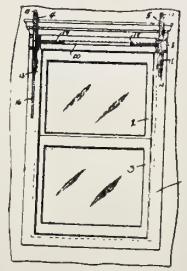
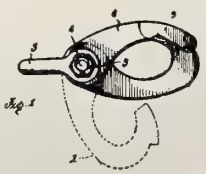


CHART FOR CUTTING GARMENTS.—A simple, practical and accurate means for garment-cutting. Will adapt itself to a perfect pattern of any present or future style. This chart is the result of many years of careful study of practical and accurate means of cutting, by an expert. For further particulars apply to S. G. Weiler, 89 Locust St., Milwaukee Wis., U.S.A.

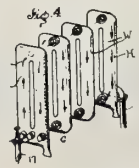


CURTAIN SUPPORT, designed to support the curtain from being soiled as is now the case when the window is opened at the top or bottom. Patent rights in the Dominion are for sale by Mrs. A. E. Robert, 608 22nd St., Oakland, Cal., U.S.A.

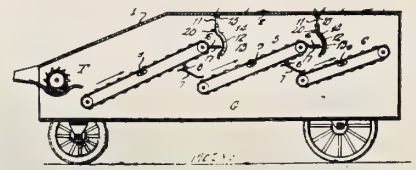
HOOK which will effectively clasp an article to permit easy and quick connection or disconnection and guaranteed to prevent accidental detachment. Can. Patent rights are for sale by Eric Ericksen, c-o Anderson & Setters, 486 Commercial St., Rooms 3 & 4, Astoria, Ore., U.S.A.



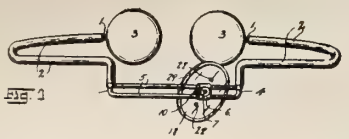
END SECTION FOR RADIATORS co-operating with the ordinary commercial type of intermediate sections and whereby the end section is so partitioned as to cause the heating fluid to be distributed throughout the radiator from the top portion thereof. For further particulars apply to Mr. H. Mullen, 413 Second Ave., Albany, Ala., U.S.A.



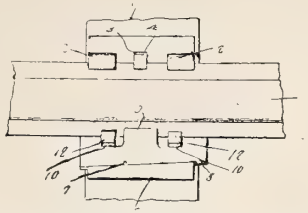
GRAIN SEPARATOR designed to separate a larger percentage of grain from the straw before the latter is delivered to the stacker. This is carried out by mounting beaters at the delivery end of the straw carriers, and suspending behind each beater a grate of peculiar construction. Can. Patent rights are for sale by Wilbert Maple, 915 W. Blackwell Ave., Blackwell, Okla., U.S.A.



When writing advertisers, please mention INDUSTRIAL CANADA



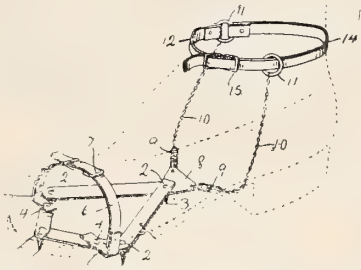
TRUSS, so constructed as to be capable of slight resilient movement and yieldability in various directions, under ordinary bodily stresses without interfering with its normal compressing functions. Can. Patent rights for sale by Oscar A. Shipley, Rahway, N.J., U.S.A.



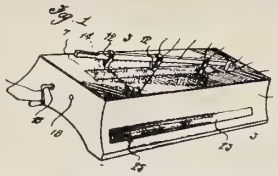
TIE-PLATE, designed to be associated with a rail-tie formed of wood so as to increase the life of the tie, said plate being equipped with novel and efficient means for securing the rail to same. Can. patent rights are for sale by John F. Wedgeworth, Sarepta, La., U.S.A.



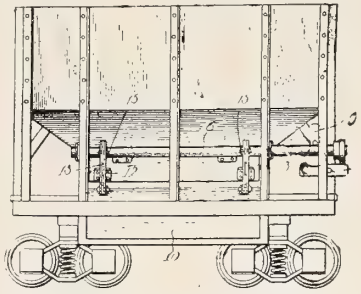
ADJUSTABLE WRENCH.—Easily adjusted by means of a tooth lever. This wrench can be adjusted to receive any type or size of nut, and is cheap to manufacture. Can. patent rights for sale by Mr. D. Forniraseo, Klamath Falls, Ore., U.S.A.



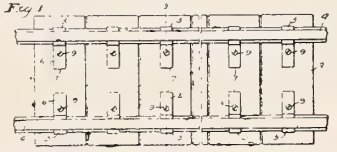
ICE CREEPER, designed for safety, comfort and guaranteed satisfaction. The article is made of spring steel, bends with the foot and fits any size or kind of shoe. Canadian patent rights for sale by the inventor, Mr. J. E. Ostrander, Strassburg, N.Y., U.S.A.



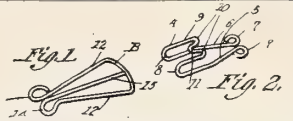
COMB CLEANER, having a novel means for holding the comb during cleaning operation, simple and efficient in use and owing to its daintiness and to the fact that it is a dressing table requisite should control a very large market. Can. patent rights are for sale by Ernest W. Mellien, Rogerson, Idaho, U.S.A.



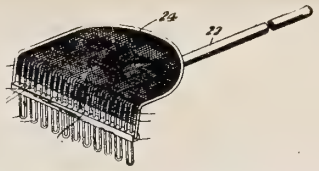
DUMP CAR which is simple, easily and safely manipulated, durable and easily repaired. Dumping arrangement will readily permit the dumping of contents of car upon either side. Patent rights are offered for sale by the inventor, Mr. Stanley Brown, 3106 E. 83rd St., Chicago, Ill., U.S.A.



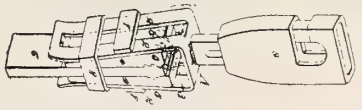
METALLIC RAILWAY ROADBED CONSTRUCTION, simple, durable, cheap to manufacture, efficient in operation and having associated therewith novel types of rail fastening elements which will effectively clamp the rails against spreading. Can. patent rights are for sale by Mr. Austin J. Stockwell, 1620½ S. Burlington Ave., Los Angeles, Cal., U.S.A.



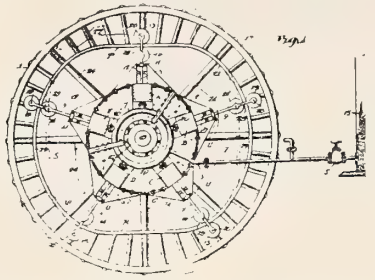
HOOKS AND EYES specially adapted for heavy garments such as fur coats, fur collars, also capes, scarfs, coats and the like, but may also be used upon other garments equally as well. Can. patent rights are for sale by F. J. Rappold, 1111 State St., Erie, Pa., U.S.A.



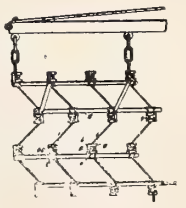
RAKE, having an improved attachment whereby the material that is raked together will be bunched in heaps instead of falling over the top of the rake, as is now the case with the ordinary lawn and garden rake. Patent rights in the Dominion are for sale by Mr. Ludwig Meuler, 205 Jefferson St., Oconomowoc, Wis., U.S.A.



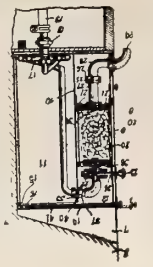
CLAMPING DEVICE, to effectively clasp an article, and being provided with arms longitudinally slotted and a pair of wedge-shaped gripping members held together, said clamping member being extended over the side so as to prevent slipping or accidental displacement. Can. patent rights for sale by Geo. L. Wallace, 1621 12th Ave., East Oakland, Cal., U.S.A.



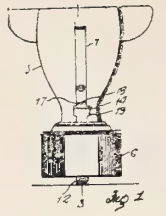
CAM ACTUATED PUMP.—This attachment may be readily installed upon a driven wheel such as a belt or fly wheel of an engine and adapted for service as an air compressor or other similar device with only a slight expenditure or loss of energy. Patent rights in the Dominion are offered for sale by Mr. David Oiler, Sr., 751 Helena St., Braddock, Pa., U.S.A.



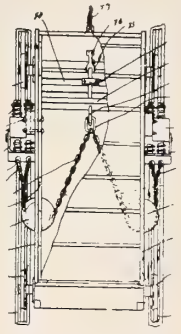
HARROW having a combined bar coupling and tooth clamping device of a simple and economical construction, by the use of which a new tooth may be conveniently applied without releasing the coupling connection. Can. patent rights for sale by Hans P. Johnson, 431 Water St., Racine, Wis., U.S.A.



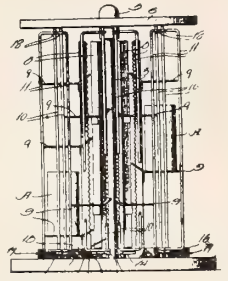
COMBINATION COOLER AND FILTER, guaranteed to insure cooling of a plentiful supply of water, and at the same time thoroughly filter same and means for preventing drippage from the dispensing spout. Can. patent rights are for sale by Harry T. Allen, Guilford, Conn., U.S.A.



CASTOR designed in such a manner as to enable the castor to be moved downwardly in the operation of moving the stove or other article from place to place and when same is at rest on the floor the castors will ascend within the base of the leg. Can. patent rights are for sale by Henry Walter, Sanders, Ohio, Box 43, U.S.A.



SAFETY GRIPPING MECHANISM FOR ELEVATORS, strong, durable, simple in construction, safe and convenient in use, readily set up and comparatively inexpensive to manufacture, adapted to mine cars, travelling upon an inclined track and controlled by a pulling cable and will in case of accident grip the rails to retard the movement of the car. Canadian patent rights are for sale by Ciril Fak, Box 161, Bush, Ill., U.S.A.



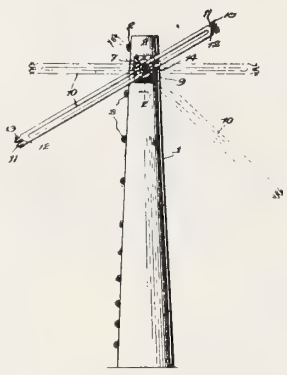
NOVEL DISPLAY CASE providing means for supporting the article to be displayed and guards for holding same in position with means for locking the case against rotation when any guard is disposed to inoperative position, thus preventing the goods from being accidentally thrown therefrom. Can. patent rights are for sale by A. A. Carter, Fayette, Iowa, U.S.A.

Manufacturers—Let us know what line of patents you are interested in, so we can send you copies from time to time.

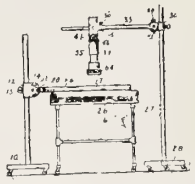
When writing advertisers, please mention INDUSTRIAL CANADA

PATENTS FOR SALE

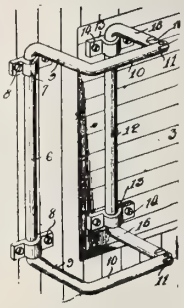
FENCE GUARD, designed to prevent stock from jumping over a fence and also to prevent them rubbing against the posts, thereby gradually pushing them over. Patent rights in the Dominion are for sale by Mr. Abraham W. Eikenberry, Flora, Ind., U.S.A.

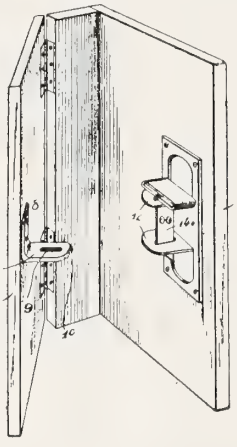


APPARATUS FOR APPLYING THERAPEUTICALLY ACTIVE RAYS TO THE HUMAN BODY for treatment of skin diseases and certain diseased organs. The rays can be applied to any particular part of the body, on account of the improved construction of the electrodes and the means for supporting them. Canadian patent rights are for sale by Ernest Zueblin, Cincinnati Tuberculosis Sanitarium, Cincinnati, Ohio, U.S.A.

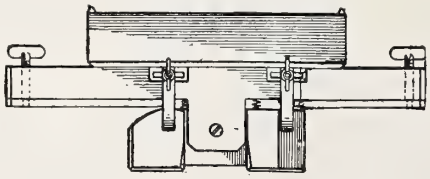


SILO DOOR HINGE, designed for permanently hinging silo doors in such a manner that the hinge is not exposed to the contents, thus preventing the dampness, which is in the silo, from rusting the hinge. Can. patent rights are for sale. William H. Lewis, R. D. No. 1, Westfield, Mass., U.S.A.

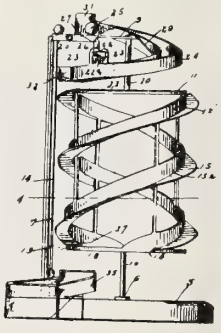




DOOR FASTENING MEANS, adapted to hold a door in a closed or open position. The article is simple in construction, cheap to manufacture, strong, durable and efficient in use. The inventor, J. P. Delamour, Melville, Sask., Canada, offers Can. patent rights for sale.



ADJUSTABLE SAW SETTING DEVICE, having means for adjusting both the degree of inclination and the length of the set to be imparted to the teeth, is capable of setting therewith cross cut, circular saws and the like. Can. patent rights are for sale by Frank W. Brown, 503 E. Center St., Belding, Mich., U.S.A.



TOY of simple design, cheap to manufacture, having an interesting mechanical movement controlled by a plurality of successively operating pieces or balls which are automatically fed. Can. patent rights are for sale by Fred Okel, 2904 McColloch St., Wheeling, West Va., U.S.A.

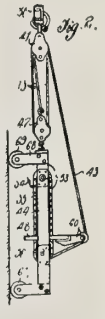
FOOD BOX for preventing animals from wasting fodder while eating, is simple in construction, durable and well adapted to stand rough usage. Can. patent rights are for sale by August Lindquist, R. R. No. 5, Box 38, Sisesston, S.D., U.S.A.



PATENTS
Trade Marks, Design Patents, Copyrights

Being near the Canadian Patent Office, we are able to personally interview examiners, thus often getting broader claims and earlier allowance of your Patent. We have access to all Patent Office Records for making searches and report, and solicit the business of Manufacturers, Engineers and others who realize the advisability of having their Patent Business given PERSONAL ATTENTION by Experts at Ottawa.

DAVIT, adapted for use on boats such as are used on the Great Lakes. The article may be readily attached to or detached from the frame and may be used as a support for a painter's chart or other object. For further particulars, apply to Mr. Jerome H. Moran, steamer *Vega,* Marine Post Office, Detroit, Mich., U.S.A.



Manufacturers interested in patents should have their names on our Service Dept. mailing list.

"CANADA'S LEADING PATENT ATTORNEYS"

Ask for our Booklet on Patents, "Patent Protection"

HAROLD C. SHIPMAN & CO.

PATENTS
TRADE-MARKS, DESIGNS, COPYRIGHTS

Branch Office Washington, D.C.

Associates All Foreign Countries

OTTAWA - CANADA

Catalogues and Booklets

Traffic Management

The Traffic Field: Chicago, La Salle Extension University. Copyright, 1919.

Ignorance of shipping conditions and methods is responsible for the loss of millions every year. Goods are improperly packed; they are sent by the wrong routes and agencies not the best; the inspection of charges is neglected. This loss amounts to a considerable tax on the shippers and receivers of goods.

All this is because the shippers (or a large proportion of them) do not yet realize the importance of the shipping department or the need of a competent traffic manager.

A book has now been published in which the essential facts about this work are collected. It s called "The Traffic Field," and is the work of five experts: J. W. Cobey, traffic manager, National Cash Register Co.; Brunner Robeson, president, Robeson Company, Chicago; J. P. Haynes, traffic commissioner, Sioux City Commercial Club; J. H. Kane, formerly of the Illinois Public Utility Commission; and N. D. Chapin, formerly chief of Tariff Bureau, New York Central Railroad.

Here are some of the things made clear by this very practical book:

How to organize a traffic department.
The duties of a traffic manager.
Filing tariffs and other records.
Tracing lost shipments.
Reducing packing costs and freight charges.
Errors in freight bills.
Auditing freight bills and transportation costs.
Loss, damage, and overcharge claims.
Local transport.
Traffic graphs.
Development of trade with foreign countries.
Duties of an export manager.
Foreign shipments.
Community traffic management.
State commissions.
General relations of carriers and public.

"The Traffic Field" is published by La Salle Extension University, of Chicago, as part of its instruction material in interstate commerce and railway traffic.

The Digester Expands

The Digester, which is described in its headline as a fortnightly paper published under the auspices of the Laurentide Company, Limited, in the interests of the town of Grand Mere, Quebec, appears in greatly enlarged and improved form with its issue of July 9. It is now printed on calendared stock, is illustrated with halftones and extends to 16 pages of standard newspaper size. A new editor has been appointed in the person of Ben Deacon, an experienced and capable Canadian newspaperman, and altogether a new era has dawned for this interesting and unique publication. All the contents are now printed in both French and English, and there is little that happens in the town of Grand' Mere or round the big plant of the Laurentide Co. that is not recorded.

Work for Women

The latest publication of the Women's Department of the Canadian Reconstruction Association is a twelve-page booklet dealing with post-war work for women. It bears as title, "What Shall I Do Now?" and contains quite a number of helpful suggestions in answer to this question. As a supplement to the main part of the booklet, there is given an alphabetical list of usual and unusual occupations of Canadian women. The keynote of the booklet is contained in the first two paragraphs:

"To find the best employment is part of our war readjustment. Sometimes it seems to us now as if it had been easy to make a choice of work in war. Choosing an employment in peace may appear sometimes more difficult. But Canadian women as the result of war activities are endeavoring to fix a new standard of national service in all their employments, and this can be done without sacrificing the best interests of the individual.

"Canada needs the service of her women workers. The productive worker and the necessary worker are in reality national servants. This principle possibly has never been realized by nations as it ought to have been. A brief review of important employments for women may enable the munition worker, the woman in other war activities, the girl entering employment from school, and women workers in general, to take each her own individual part in the great work of reconstruction."

Directory of Chemical Industries

The Dominion Bureau of Statistics has just issued a Directory of the Chemical Industries in Canada, listing the names, addresses and products of nearly five hundred Canadian firms manufacturing chemicals, or other products in which the processes used are essentially dependent upon the agency of chemical change.

This publication will undoubtedly fill a long felt want and should be of considerable value to the general public as well as to the trade. It has come to be a well accepted truth that scientific progress is essential to the true development and material welfare of any country, and in Canada, where many of our natural resources are as yet almost unknown, the importance of laying sound foundations cannot be over-estimated. Some of the possibilities of industrial chemical development were made apparent by the remarkable accomplishments along these lines in Canada during the war, and consequently popular sentiment now favors the idea that this country should, to a large extent, be freed from dependence upon other countries for our chemical needs. In order that this idea might be guided along well advised lines, it was essential that a survey of our chemical industries should be made, and the bulletin now referred to represents the first phase of this work.

The Directory is in two divisions: (1) an alphabetical list of the various concerns, the head office address of each, together with a detailed list of their products, including in the latter chemicals and products resulting from chemical processes; (2) a list alphabetically arranged of the chemical products manufactured in Canada showing the names of the various firms engaged in their manufacture.

Bedroom and Dining Room Furniture

A catalogue in which the illustrations speak for themselves in that of the Bell Furniture Company, Limited, Southampton, Ont., in which pictures of the various lines of bedroom and dining-room furniture, manufactured by the company are shown. The half-tone work is excellently done, and the catalogue, printed on heavy, coated paper, is a genuine work of commercial art. The various pieces of furniture carry key numbers which are related to a price list issued separately.

Condensed Advertising

EXPERIENCED IN FOREIGN EXCHANGE

Young man with good references desires responsible position in finance department of leading commercial house, export preferred. Good knowledge finance and exceptional experience in banking and foreign exchange. Three years overseas with C.E.F. Write Box 4200, Industrial Canada.

WANTED

Young man of good education wanted at once as assistant for Plant Manager of large manufacturing firm. Prefer one having some factory experience to enable him to check costs of production. This is a good position for a live man. Reply stating experience to Box 4000, Industrial Canada.



Consider Them As an Investment

Consider these new "Office Specialty" Counter Height Filing Sections in the light of an investment that pays you real dividends in actual money saved.

In the first place "Office Specialty" Counter Height Filing Sections serve all the purposes of high-grade filing cabinets. And in addition they combine the function of an office counter. That's where your first dividend comes in—you save, in first cost, the price of a counter.

On top of this there's your dollar-and-cents saving represented by the floor space conserved. And at the prevailing rate of rentals this saving means quite a repectable figure on your bank balance.

COUNTER HEIGHT SECTIONS

If this were all the service these Counter Height Filing Sections performed you would even then be getting double value for your money.

But they do more.

They act as department divisions in an office when stacked together as shown in the illustration.

Any record in his department is available to the executive in half the time it would take the filing clerk to walk to the filing room.

So besides the known savings they effect in space—and consequently money—they enable your clerks to get papers and records for you quickly—they save your time and the time and energy of your staff.

Tell your stenographer to type a memo today for descriptive folder "The Conservation of Space in Your Office." It's free.

958

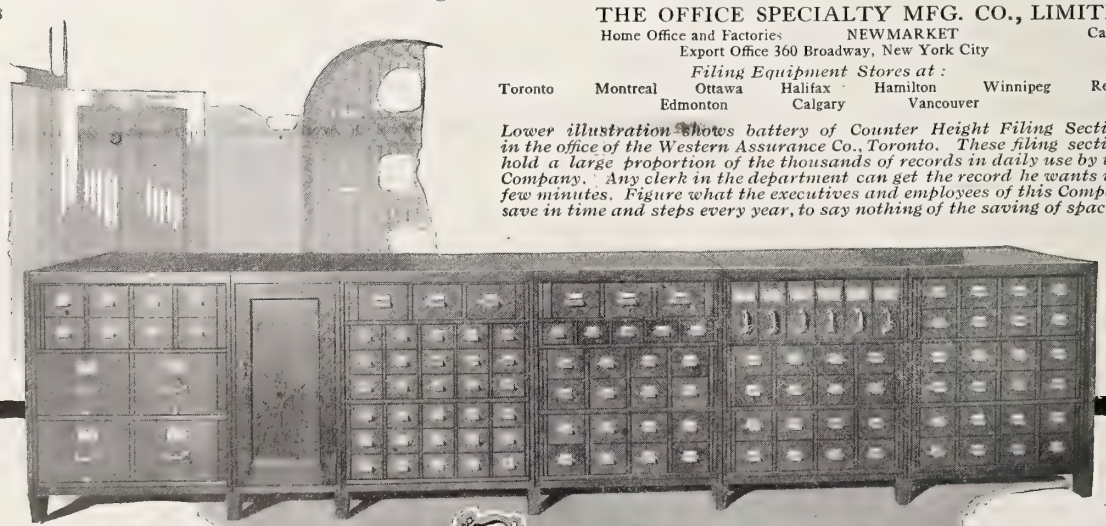
THE OFFICE SPECIALTY MFG. CO., LIMITED

Home Office and Factories NEWMARKET Canada

Export Office 360 Broadway, New York City

Filing Equipment Stores at :

Toronto Montreal Ottawa Halifax Hamilton Winnipeg Regina Edmonton Calgary Vancouver



Lower illustration shows battery of Counter Height Filing Sections in the office of the Western Assurance Co., Toronto. These filing sections hold a large proportion of the thousands of records in daily use by this Company. Any clerk in the department can get the record he wants in a few minutes. Figure what the executives and employees of this Company save in time and steps every year, to say nothing of the saving of space.

OFFICE SPECIALTY

LABOR SAVING OFFICE DEVICES "Y and E" TIME IS MONEY

FILING SYSTEMS

OFFICE AND FINANCE

A Standard Cost System for Shoe Manufacturers*

By JOHN L. THORNE

(Of Thorne, Mulholland, Howson & McPherson, Industrial Advisors, Toronto)

MOST of you, I would judge, have read the report of Edward N. Hurley, when chairman of the Federal Trade Commission, as to the ridiculously small number of manufacturers who are making a profit, and of the large number who have no accurate knowledge of the true cost of their production; but has the real significance of this statement been realized—that estimated costs and failures always go hand in hand? It is true that a selling price must be fixed before the samples are taken out on the road by the salesmen, and that it is necessary to compute, beforehand, the cost of such samples; but that is no excuse for the old-fashioned estimate sheet, which does not take into account the past experience of the company.

Loss in Materials

Every manufacturer knows the exact quantity of material in any given pair of shoes, but he also knows that there has been more material used than appears in the finished article. And that is where the shoe manufacturer who has no accurate cost system makes his first costly guess. If his last season was a poor one from a profit standpoint, he becomes more determined than ever to land more business, thinking that a greater turnover will prove his salvation, with the result that each item on the estimate is reduced to almost its bare necessity. Prudence, of course, tells him that he is running pretty close to the wind, but he faithfully promises himself that he will devote more time to the factory and eliminate a great deal of what he terms unnecessary waste. You all know the story, gentlemen; it is as old as business itself. Some of us realize our folly and reform before it is too late, but the majority struggle along, striving to accomplish the impossible, until the assignee relieves them of their worries. To those of you who believe this picture has been overdrawn, I ask that you conscientiously prepare a statement of the actual production in your factory and credit your material accounts with the values allowed on your estimates. If you have no cost system, the difference between what you *estimated* you would use for the production attained and what you actually *did* use in the ordinary course of that business, will forever convince you of the folly of banking on paper profits.

Accounts that Should be Opened

The remedy is simple. Open up accounts in your factory ledger for each general division of material, such as Uppers, Linings and Trimmings, Bottom Stock, Supplies and Findings, and Containers. To each of these accounts charge its proper portion of your inventory, and see that all purchases are also entered under the heading affected. Then each month credit these accounts with the value of the material you allowed for when fixing the selling price, and the difference in each account will represent the value of each group of materials you should have left on hand. Unless your books were in fairly satisfactory shape before you made the change, however, you will find a vast difference between the value of your inventory as shown in your books and the value of stock which is actually on hand. Usually it is a shrinkage, and it is necessary to operate the system for several months before a constant percentage can be obtained. Once this is established, however, the differences will gradually diminish until the book figures may quite safely be used to determine your monthly profit or loss.

There should also be mentioned here the great advantage of a monthly statement. Most manufacturers depend upon the regular semi-annual or annual inventory to tell them how much money they have made or lost, but the manager who knows where he stands each month is in a much better position to correct his mistakes and profit by them, than the manager who is content to be told only twice a year that he has made progress or dropped behind. Under the system which I am outlining it is not necessary to go to any particular trouble in order to find out your profit for the month. In the case of the average manufacturer it is but the work of a few hours for his accountant, and the whole story is laid before him.

Laid Down Cost of Material

Now to go back again to your cost. You have seen how it is possible to accurately determine the quantity of material used in a given number of shoes. There is another factor involved, however, which must be taken into account and that is the laid-down cost of your material. To those manufacturers whose finances will permit them to purchase their whole season's requirements in advance, a fluctuating market holds no terror, but to the average business man, who has to buy in smaller quantities, it is important that he protect himself against a rise in values. It is readily seen that if you include any material in your estimates at your actual laid down cost, but have not sufficient of it on hand to complete your season's business and have to go into the market again when the price has advanced, you must take a loss on the transaction. To avoid this it is only necessary either to make sure that you can duplicate your purchase, or to anticipate the market, and spread the advanced cost over the whole season.

Not long ago a manufacturer of my acquaintance turned a substantial profit into a big loss by displaying undue optimism over his supply market. It appears that he had bought, as usual, only half his season's requirements, and, despite warnings of an advance, he accepted the oral assurance of one supply house's salesman that he could repeat at the same price, and did not provide for an advance in his estimate. The result was that when he returned to the market it had risen several points, and the additional cost came out of his own pocket instead of the customer's. To summarize your material cost, then, there are two distinct items to be considered: First, the natural shrinkage of material in the course of manufacture, which can be accurately determined from past experience, and, secondly, a possible rise in cost of further purchases after you have fixed

*Summary of an address delivered by Mr. Thorne during a convention of Boot and Shoe Manufacturers at London, July 9, 1919.

BANK OF MONTREAL

Established over 100 Years

Capital Paid Up - - $20,000,000
Rest - - - $20,000,000
Undivided Profits, $1,661,614
Total Assets - $489,271,197

BOARD OF DIRECTORS:

Sir Vincent Meredith, Bart., President
Sir Charles Gordon, G.B.E., Vice-President
R. B. Angus, Esq. — Lt.-Col. Molson, M.C.
Lord Shaughnessy K.C.V.O. — Harold Kennedy, Esq.
C. R. Hosmer, Esq. — H. W. Beauclerk, Esq.
H. R. Drummond, Esq. — G. B. Fraser, Esq.
D. Forbes Angus, Esq. — Colonel Henry Cockshutt
Wm. McMaster, Esq. — J. H. Ashdown, Esq.
E. W. Beatty, Esq., K.C.

Head Office: MONTREAL

Sir Frederick Williams-Taylor, General Manager

Branches and Agencies: Throughout Canada and Newfoundland At London, England, and at Mexico City In Paris, Bank of Montreal, (France) In the United States - New York, Chicago, Spokane. San Francisco - British American Bank (owned and controlled by Bank of Montreal).

A GENERAL BANKING BUSINESS TRANSACTED

ESTABLISHED 1875

IMPERIAL BANK OF CANADA

CAPITAL PAID UP, $7,000,000 RESERVE FUND, $7,500,000

EXPORTERS

THIS bank offers particularly good facilities in the handling of the banking requirements of exporters. Its strong foreign connections guarantee the most efficient service.

AGENTS IN GREAT BRITAIN

ENGLAND—Lloyd's Bank Limited, London, and Branches
SCOTLAND—The Commercial Bank of Scotland, Edinburgh, and Branches
IRELAND—The Bank of Ireland, Dublin, and Branches

AGENTS IN FRANCE

Lloyd's Bank (France) and National Provincial Bank (France), Limited

AGENTS IN UNITED STATES

NEW YORK—The Bank of The Manhattan Company
CHICAGO—First National Bank BUFFALO—Bank of Buffalo
DETROIT—Old Detroit National Bank
SAN FRANCISCO—Wells Fargo Nevada National Bank
and in all other principal centres

HEAD OFFICE . . TORONTO

your selling price. As regards the second item all I can say is that, when in doubt, take the benefit of it, and you will always be on the sunny side of your profit and loss account.

Now to pass on to your labor costs. It is a great mistake to have but one wages account, as the average manufacturer without a cost system usually has. As we all know, analysis is the first step before correction. With one wages account it is very difficult in the event of a gradual, or even a sudden, rise in the amount paid to your employees to point your finger at the cause. But with a separate account in your factory ledger for each department, such as the Cutting Room, Stitching Room, etc., it is a very simple matter to determine the cause of any fluctuation immediately the statement comes before you. Another distinct advantage of the departmental wage system is the ease with which you can check up the figures you used to fix your selling price. Very few manufacturers over-estimate their labor costs. When arriving at the cost of a new sample, they are inclined to be unduly optimistic over the productivity of their equipment and employees. By keeping track of the wages paid in each department, however, and comparing the production, it is only the work of a few minutes to find out by how much they are exceeding or reducing your labor costs. It is understood, of course, that when I speak of labor costs, I refer to your productive labor only, as distinguished from what I term non-productive or indirect wages, such as foremen, elevator men, factory office help, etc. It is a good plan to have a statement laid before you each week, showing the amount earned by each department according to your estimated cost of manufacture when fixing the selling price, and the amount actually paid. In this way only can you see how you are coming out on your labor costs.

Manufacturing Expense

Now we come to one of the most difficult questions of all, viz., factory overhead or manufacturing expense. Included in this item are such expenditures as non-productive wages, as explained a few minutes ago, repairs to machinery and renewal parts, sundry factory supplies which cannot be conveniently charged directly to the product, depreciation, royalties, cripples' lasts, dies, etc., and last, but not by any means less important, rent, heat, light, power, insurance, taxes, etc.

When I started to discuss factory overhead, I stated that it was a difficult problem. By that I meant, overhead is a dangerous weapon in the hands of an optimist. I have known some manufacturers to estimate their material costs so closely as to be almost uncanny. I have seen the labor costs of others remain almost in a constant ratio with their payrolls, but when it came to providing for their overhead a stranger could guess almost as closely as they figured. When it is understood that the greatest part of your overhead remains the same whether your production is valued at a million or double that amount, it is readily seen how careful one must be not to overstep the mark. Many methods have been tried to more or less control this item, but they all resolve themselves into the same question: What is your production? Past experience will tell you what your factory *can* do, and general business conditions can be used to gauge what your output *should* be. Taking these two items into consideration, it is not difficult to apportion your overhead accurately, if you are not too optimistic over your sales. It is much better (within reason, of course) to underestimate your production when apportioning overhead than to overestimate it, because the former means a decided loss and the latter an additional gain. To keep an account of overhead—by charging in all the items which go to make it up, and crediting the amount absorbed by your production—it is a

simple matter to ascertain whether it is gaining on you and causing an unexpected loss, or keeping within the amonut provided.

We have now taken up the three main elements which go to make up the actual cost of manufacturing your shoes, viz., material, labor and factory overhead, and there are but two other factors involved—the cost of placing your product on your customers' shelves and getting paid for them—and your profit. Here, again, it is essential that separate accounts be kept for specific items, such as Salesmen's Salaries, and Commissions, Salesmen's Travelling Expenses, Advertising, Bad Debts, Office Salaries, Office Expense, etc., as it enables one to determine what the proper ratio should be in each department.

In regard to bad debts, it is much wiser to put aside a definite percentage of your sales than to simply write off your accounts as they become worthless. Experiences with credits vary with each manufacturer, and it is, therefore, impossible to state what percentage of your sales should be set aside to cover your losses on this account, but this system is infinitely better than the happy-go-lucky method of pocketing losses as they occur. Credit losses are heaviest when business is poorest, and therefore you are less able to survive the blow. But, apart from this, it is known that those manufacturers who simply write off accounts when valueless do not include this expense in their costs and are, therefore, this much out of pocket, while those manufacturers who set up a reserve do include it in this selling price, and are prepared for the loss when it occurs.

Returns and Allowances

One other item which will stand close attention is your returns and allowances. Most manufacturers simply charge the sales account with them, and as a consequence they are practically lost sight of. If you keep a separate account of returns and allowances a very valuable barometer of your business will be furnished. One manager I know claims that he saves twice his salary every six months by watching this account. Salesmen who promise the customer one thing and tell their employer something else—customers who are dishonest—improvements in your methods of manufacture, etc., are all told of in this account if you will but give it a chance.

Methods of distributing commercial overhead over the product are as numerous as they are complicated. The simplest and safest way is to chart your commercial overhead in advance, and then add to your different products an amount sufficient to absorb it. What percentage it should be for any particular make of shoe can only be determined from the output and expense of each.

It is to be regretted that only general principles can be dealt with here, but when it is remembered that practically no two manufacturers are operating under exactly the same conditions, it will be seen how dangerous it would be to try to generalize on details.

The Mystery of Foreign Exchange

Idle to Protest Against Exchange Rates which Merely Express Trade Conditions

(From "Canadian Finance")

When a Canadian finds that it costs approximately $103 to purchase a bank draft for $100 payable in New York, he immediately becomes interested in the question of foreign exchange. He is still more interested when he finds that a draft payable in England for the equivalent of $100, remitted by way of New York, costs a little less than $100 in Canada. To the average man

THE ROYAL BANK OF CANADA

Capital Paid Up	$14,000,000
Reserve and Undivided Profits	15,500,000
Total Assets	427,000,000

HEAD OFFICE - MONTREAL

BOARD OF DIRECTORS:

Sir Herbert S. HOLT, Pres. E. L. PEASE, Vice-Pres
E. F. B. JOHNSTON, K.C., 2nd Vice-Pres.

Jas. Redmond	C. S. Wilcox
G. R. Crowe	A. E. Dyment
D. K. Elliott	C. E. Neill
Hon. W. H. Thorne	Sir Mortimer B. Davis
Hugh Paton	G. H. Duggan
Wm. Robertson	John T. Ross
A. J. Brown, K.C.	R. MacD. Paterson
W. J. Sheppard	W. H. McWilliams

OFFICERS

E. L. Pease, Man. Director, C. E. Neill, Gen. Manager
F. J. Sherman, Asst. Gen.-Manager; M. W. Wilson, Supt. of Branches.

Branches in every Province of the Dominion of Canada and in **Newfoundland**; in **Havana** and throughout **Cuba**, Porto Rico, Dominican Republic, Costa Rica, and Venezuela; **Antigua**, St. John's; **Bahamas**, Nassau; **Barbados**, Bridgetown, **Dominica**, Roseau; **Grenada**, St. George's; **Jamaica**, Kingston; **Montserrat**, Plymouth; **Nevis**, Charlestown; **St. Kitt's**, Basseterre; **Trinidad**, Port of Spain and San Fernando; **British Guiana**, Georgetown, New Amsterdam and Rose Hall (Corentyne); **British Honduras**, Belize.

SPAIN, Barcelona—Plaza de Cataluna 6.
LONDON, England, OFFICE—Princes St., E.C.
NEW YORK AGENCY—Cor. William and Cedar Sts.
(Savings Department at all Branches.)

PROGRESS AND GROWTH

For over fifty years The Canadian Bank of Commerce has been serving the people of Canada in increasingly large measure, until at the present time we have over 470 branches catering to the needs of the Country.

THE CANADIAN BANK OF COMMERCE

Make sure of those profits you have endeavored to obtain. Install our standard cost system -- no red-tape -- no unnecessary expense -- just results.

Thorne, Mulholland, Howson & McPherson

INDUSTRIAL ADVISORS

Offices—Bank of Hamilton Building Toronto, Ont.

RIORDON SALES COMPANY, LIMITED

MONTREAL

Offer for Sale

Sulphite Fibre Wood Pulp

BLEACHED AND UNBLEACHED

FOR PAPER MILLS

IMPERVIOUS SPRUCE SHEATHING

Lumber

SPRUCE, HEMLOCK AND PINE, CEDAR RAILWAY TIES AND SHINGLES, SPRUCE CLAPBOARDS.

SALES MANAGERS

T. J. STEVENSON GEO. E. CHALLES

THE BROWN BROTHERS LIMITED

Simcoe and Pearl Sts. TORONTO



MANUFACTURERS OF

ACCOUNT BOOKS, LOOSE LEAF LEDGERS

Binders and Specialties

LEATHER GOODS—DIARIES—STATIONERY

Printers' and Bookbinders' Supplies

Established 1849

BRADSTREET'S

Capital and Surplus - - $1,500,000

Offices Throughout the Civilized World

Executive Offices: Nos. 346 and 348 BROADWAY, N.Y. CITY, U.S.A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying, and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world. Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary, and business corporations. Specific terms may be obtained by addressing the Company at any of its offices. Correspondence invited.

OFFICES IN CANADA

Edmonton, Alta.	Hamilton, Ont.	London, Ont.
Halifax, N.S.	Ottawa, Ont.	Quebec, Que.
Montreal, Que.	Toronto, Ont.	Vancouver, B.C.
St. John, N.B.	Winnipeg, Man. Calgary, Alta.	Victoria, B.C. Sydney, N.S.

THOS. C. IRVING, Gen. Man. Western Canada, Toronto

EXPORTERS OF

Reed Organs, Piano Stools, Music Cabinets.

Catalogue B.

The Goderich Organ Co. Limited

GODERICH, CANADA

Closet Seats, Flush Tanks, Medicine Cabinets, Everything for the Bathroom.

Write for Catalogue C and Price List.

this difference in the rate of exchange between New York remittances and London remittances is indeed a conundrum.

Several weeks ago, owing to the discontinuance by the Government of Great Britain of its policy of stabilizing exchange rates, the British pound sterling, with a par value of $4.86 2-3, could be purchased in New York for $4.58, while $102.12 was required in Winnipeg to purchase a draft for $100 payable in New York. It will be seen, therefore, that the decreased value of British money in New York was offset materially by the increased value of American money in Canada. Although the present rates of exchange in New York are referred to as favorable, certain adverse conditions always arise when the money of one country may be purchased below its face value in another country. A draft for $100 payable in New York last month cost approximately $106 if purchased in England, $116 if bought in France, $150 if obtained in Italy, and $102.50 if purchased in Canada. To take just one example, this would mean that in Italy an article which had to be obtained in New York, where it was worth $100, would cost the Italian $150. On the other hand, if a resident of Italy held an American bond worth $100 in New York, he would be able to obtain approximately the equivalent of $150 for it in Italy. The shrinkage of foreign money values in New York, therefore, tends to have a triple effect. It encourages the sale by residents in foreign lands of American securities, and it forces the foreigner for economic reasons to curtail as much as possible the purchase of American products. It also enables the foreigner to sell his products to New York cheaper than he could if the exchange rate was near par. In the case of an Italian selling his products and receiving American money in payment, he would receive the equivalent of $150 in Italian money for each $100 worth of goods he sold in New York.

U.S.A. Creditor Nation

The exchange situation is causing American financiers some concern, for they realize that to refer to it as being "favorable" is not altogether in accordance with the fact. The United States during the past four years has changed from the position of a debtor nation to that of a creditor nation. It has accumulated gold to such an extent that its financial men admit that it has too much compared with what exists in the outside world. An American view of the situation is given below, being an extract from the bulletin of the National City Bank of New York:

"The gist of the whole problem is in the fact that international debts must be paid in gold or other transportable property. We have here a case of such magnitude that gold is out of the question, and we have nothing to consider but imports of goods or securities.

"Unless the creditor country is willing to receive its pay either in goods or securities it plainly has no use for the trade. Its decision means that it would rather keep its own products than export them on those terms. Exchange goes to a prohibitory premium, and exports decline until the balances are no larger than can be settled. It is idle to protest against exchange rates which merely express trade conditions. They perform a necessary function. When an individual or country cannot pay for purchases in a manner acceptable to the seller the time has come to cease buying.

"Is it a calamity to a country that is no longer obliged to export several hundred millions' worth of its products annually to pay interests on its debts, and that it is in position to receive several hundred millions' worth of products on interest account?

"We do not think so. In changing over from the position of a debtor country to that of a creditor, this country is in the position of an individual, who, beginning life with nothing, must give labor or the products of labor in direct exchange for everything he receives, but who later accumulates capital and then is able to live in part upon income previously earned."

The Merchants Bank of Canada

Head Office, MONTREAL **Established 1864**

Paid-up Capital	$ 7,000,000
Reserve Funds	7,574,043
Total Deposits (April, 1919)	138,000,000
Total Assets (April, 1919)	166,000,000

President: Sir H. Montagu Allan, C.V.O
Vice-President: K. W. Blackwell
General Manager: D. C. Macarow
Supt. of Branches and Chief Inspector: T. E. Merrett

THE WORLD OF FINANCE

offers no more thorough and up-to-date system than that which regulates the workings of The Merchants Bank.

It is this careful training and efficient management which enables this Bank to give to its customers a most modern and satisfactory banking service.

307 Branches in Canada Extending from the Atlantic to the Pacific.

NEW YORK AGENCY, 63-65 WALL ST.

Now more than 360 Branches in Canada

Located at all strategic commercial points in the Dominion from Charlottetown, P.E.I., and Halifax, N.S. on the Atlantic, to Prince Rupert and Vancouver, B.C. on the Pacific, our more than 360 branches are in a position fully to co-operate in the up-building of these communities and to progress with their further development.

UNION BANK OF CANADA

HEAD OFFICE: WINNIPEG

Resources - $153,000,000



Consistency - *thou art a jewel!*

He Uses a Foreign Made Printing Paper to Tell People to Use His Made in Canada Goods

You see the point? He was sending money out of the country to tell people to keep their money ***in*** the country.

Other things being equal, Canadian business firms should give preference to Canadian goods.

That is vital to Reconstruction --- Reconstruction on a really sound basis.

What kind of paper has been used for YOUR printed matter? Hereafter, will you insist on Canadian made paper and raise the standard of your printed matter?

The Better the Paper the Better the Booklet

War covered a multitude of sins---among them, poor printed matter. There is no excuse today. Paper is such a small item of cost compared with artwork, cuts, printing, and distribution, that you simply cannot afford to sacrifice selling value to save a few dollars on your paper.

Are we all agreed then?---the best paper the job warrants, and absolute insistence on Canadian made paper where equal value is obtainable---as it always is.

Look for this mark on the wrapper of every package of paper you buy.

Insist on Canadian Printing Papers

Send for copy of "Some Facts About the Pulp and Paper Industry of Canada." Sent free upon request.

CANADIAN PULP AND PAPER ASSOCIATION

137 McGILL STREET - - MONTREAL

INSIST ON CANADIAN-MADE PAPERS



The "R SHIELD" watermark guarantees "Rolland Quality"

CANADA'S LEADING WATERMARK

There is general satisfaction in using

Canadian-Made Papers

But the greatest satisfaction of all is to use "Rolland Quality" papers. They are the result of nearly 40 years experience in High Grade Paper Making in Canada.

Why not ask your printer to supply you with Canadian-Made Paper and to start right make it "Rolland Quality."

The following "R Shield" Brands meet the general requirements of commercial stationery:

Superfine Linen Record
Earnscliffe Linen Bond
Empire Linen Bond
Colonial Bond
Mount Royal Bond

Awarded

Grand Prix Paris 1900 Gold Medal Chicago 1893 Gold Medal Antwerp 1883

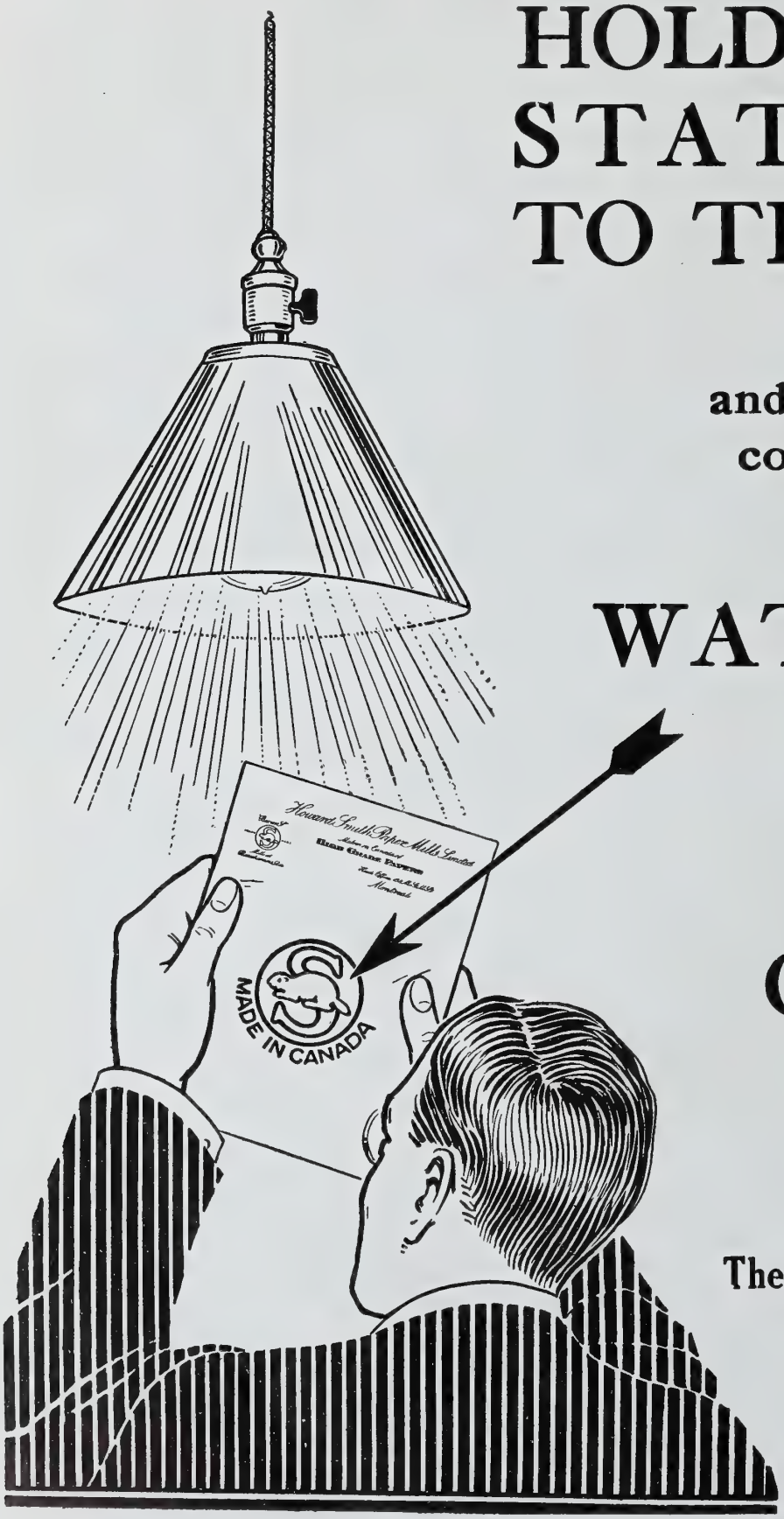
The Rolland Paper Co., Limited

High-Grade Paper Makers

General Offices:
142 St. Paul St. West, MONTREAL

Mills at
St. Jerome and Mont Rolland, P.Q.

HOLD UP YOUR STATIONERY TO THE LIGHT



and see that it contains this

WATERMARK

It is your guarantee for

QUALITY

-Made-in-Canada—

BY

The Howard Smith Paper Mills
LIMITED

138 McGill St., MONTREAL

MILLS AT

BEAUHARNOIS, QUE. and CRABTREE MILLS, QUE.

DEPENDABLE SERVICE

JOINT GLUE

VENEER GLUE

ALWAYS UNIFORM
Samples and Prices on Request

DELANY & PETTIT, LIMITED
TORONTO

HIGH GRADE COATED PAPER

For the Best Results in Fine Screen Half-Tone and Color Work, use

"Red Seal" Coated Book

"Luxacoted Porcelain" Coated Book

TRADE COATED R PAPER MARK
REGISTERED

Made by

RITCHIE & RAMSAY LIMITED, TORONTO
CANADA

Western Selling Agents :
JOHN MARTIN PAPER CO., LTD., Winnipeg and Calgary

Is your commercial traveller well dressed?

Are you as particular about the personal messages you send in letter form?

Do you use good envelopes?

We mean envelopes that are well made and in keeping with your letter head, though not necessarily expensive.

From our immense stock it is easily possible for you to make selection in accordance with your needs.

We have many different qualities in a great variety of sizes from which you can make choice.

Let us explain to you the many advantages of our WINDOW ENVELOPES and how they save time, money and mistakes.

Your letter is your personal message---- and appearances count.

Use Good Envelopes

Barber-Ellis Limited

71 Wellington Street West

ENVELOPE MANUFACTURERS AND PAPER DEALERS

Toronto Brantford Winnipeg Calgary Vancouver

Good Things from Other Magazines

Our High Prices Have They Come to Stay?

In the May Issue of INDUSTRIAL CANADA we published an article on "The Permanency of Present High-Price Levels," which was written by Prof. Irving Fisher of Yale University and which attracted a good deal of attention when it originally appeared in the United States. The following article supplements Prof. Fisher's article, dealing particularly with the effect of currency on prices. The conclusion is reached that there can be no drop in prices for some time to come

By ALFRED J. LOTKA

(From the Scientific American)

BUSINESS conditions are determined in part by objective factors, such as the effect of weather upon the crops, the discovery of new gold fields, the existence of a state of war and the consequent upheaval in demand and supply along abnormal lines, and so forth.

On the other hand certain psychological factors have a large influence upon our economic system. Over-confidence and a somewhat exaggerated spirit of enterprise and activity are the invariable attendants of the upward movement preceding the sudden descent of a so-called economic crisis, just as despondency and collapse of confidence form part of the phenomenon of the crisis itself. In such cases it is usually difficult or impossible clearly to separate cause and effect. The psychological condition is no doubt partly caused by the existing objective state of affairs; but in turn the frame of mind of the people exerts a reflex influence and affects the objective factors of trade.

Where We are Liable to Err

All this is perfectly natural. The purpose or function of our mind is to enable us to adapt ourselves to circumstances and to adapt the external world to our needs. Harm arises only when we proceed under mistaken impressions. That under certain conditions we should retrench in our constructive activities is sound business; where we are liable to err is in misjudging when conditions call for such retrenchment or when they justify expansion.

There are indications that our economic system is at the present time suffering more or less acutely from such misjudgment.

In many quarters production is held up, business is deferred, in the expectation that presently a fall in prices will offer more advantageous conditions for purchasing materials and labor; or, construction work is delayed out of solicitude lest a fall in prices should leave the investor with property on his hands which he will not be able to dispose of profitably. There is in many fields a willingness to sell, but much hesitation in buying.

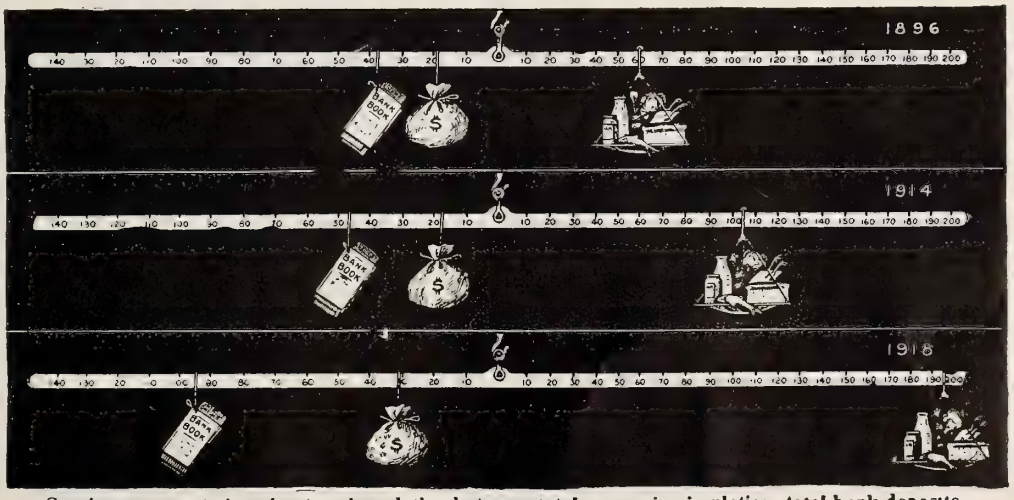
The fundamental cause seems to be largely psychological —the recollection of pre-war prices, and the tacit assumption that they represent in some obscure sense "normal" prices, towards which we shall ultimately revert.

Where Opinions Differ

Note that this conviction is not held without partiality. As Prof. Irving Fisher, of Yale University, points out, many manufacturers think that prices must come down, including the price of labor. But suggest to them that they make a beginning by lowering *their* prices, and immediately they are ready with a demonstration that *their* prices can not come down, and that *they* can not pay lower wages.

The fact is that in this latter contention they are probably substantially right. Where they are at fault is in supposing or maintaining that their case is peculiar. While here and there in special departments there may be fluctuations downward as well as upward, the present high tide in the general price level is probably due to fundamental causes which are not likely to be removed or materially altered in the near future, if at all. Professor Fisher, addressing a Conference of Governors and Mayors assembled at the White House, expressed his view of the situation as follows:

"The fundamental practical question confronting business men is whether the general level of prices is going to fall. In my opinion it is not going to fall much, if at all. We are on a *permanently* higher price level, and the sooner the business men of the country take this view and



Graphic representation showing the relation between total money in circulation, total bank deposits, velocity of circulation, total trade, and general price level

adjust themselves to it, the sooner will they save themselves and the nation from the misfortune which will come if we persist in our present false hopes."

In order to understand the situation it is necessary to form a definite idea regarding the way in which the general price level is affected by the total amount of currency that is in circulation. It will assist us in gaining an understanding of this matter if we consider first of all an ideal simple case. We can afterwards fill in the details corresponding more closely to actual conditions.

The simple case which we shall first consider is that of a community in which all payments are made in one kind of currency, say gold, and in which there are no credit transactions.

In order to deal in round numbers, let us suppose that in this community there are in circulation 50,000 ounces of gold which in our coinage represent about one million dollars.

Each gold dollar (that is, 1/20 of an ounce of gold), in the course of the year, changes hands a number of times, once at each purchase or sale in which it is used for payment.

For example, let us suppose that each ounce of gold changes hands, on an average, twenty-five times in a year.

At each sale a certain number of gold dollars pass in one direction, and a certain number of pounds of various goods pass in the opposite direction.

The total number of such passages from hand to hand of a gold dollar within a year is evidently the product of $1,000,000, the total gold in circulation and 25, the number of times each dollar changes hands within a year, making a product of twenty-five million.

On the other hand there is a certain definite number of pounds of goods bought and sold, which are paid for by those twenty-five million dollars. Supposing for example that 1,000 million pounds (one billion pounds) of goods change hands in the course of the year, then the average price per pound will be 25/1,000 of a dollar, or 2½ cents.

How Prices Rise and Fall

Now suppose that all other conditions remain unchanged, but that by some means or other we are able to just double the amount of gold in circulation. In these new circumstances fifty million dollars will pay for the same 1,000 million pounds of goods. The price per pound, on an average, will now be five cents, just twice what it was before.

It will be seen, therefore, that, if in such a community as we have been considering, the total amount of currency in circulation is increased, while other conditions remain unchanged, the effect is to raise all prices in the proportion of the increase in the amount of circulating medium of exchange.

Suppose that the doubling of the gold dollars is carried out quite impartially. Each man would suddenly have twice as much money in his pocket as before. At the same time all prices would be doubled. Evidently this would make absolutely no difference in the general economic status of the individual in the community. It is only if the readjustment takes place unevenly that the change causes more or less acute discomfort and suffering to some, while it brings profit to others. In point of fact this is always the case in actual



BOECKH'S
RUBBER SET BRUSHES

IMPORTANT JUDGMENT BY COURT OF APPEAL

THE action brought against the BOECKH COMPANY, LTD., to prevent their using the descriptive words "RUBBER SET" on, and in connection with their Brushes, has been **dismissed with Costs** against the Plaintiffs by the unanimous judgment of the Court of Appeal, which affirms the judgment of the Trial Judge, the Honorable Mr. Justice Masten.

The word Rubberset, or the words "RUBBER SET," are the only words which **accurately** and **absolutely** describe how the Brushes which have a Rubber Setting are made, and no person has, nor can have, a monopoly in the use of such word or words.

We think it only fair to notify the Trade and the General Public of this judgment, so that they cannot be misled as to our right to make use of the words "RUBBER SET" to indicate the process by which our genuine "RUBBER SET" Brushes are made.

Our Paint, Varnish, Kalsomine, Sash Tools and Shaving Brushes are made by our genuine "RUBBER SET" Process, by which the Bristles are firmly held in vulcanized rubber, and we are thereby able to **absolutely guarantee them** in every particular, and we use the words "RUBBER SET" to let the buyer know exactly how our Brushes are made.



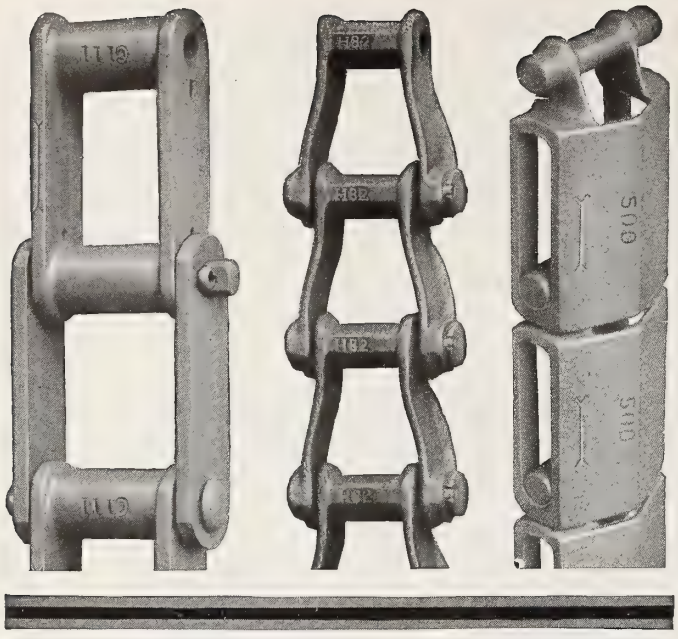
"THE BRISTLES CAN'T COME OUT"

Every Brush Guaranteed

THE BOECKH COMPANY, LTD.

TORONTO, CANADA





LINK-BELT

For Every Purpose

WHETHER your problem is one of power transmission, elevating or conveying, we have a type of Link-Belt especially designed for the purpose.

And when we say "especially designed" we mean it. For our engineers have spent years in the study of the peculiar conditions and requirements which various industries place upon Link-Belt. Each type has been designed not with the thought of how cheaply it can be made, but how perfectly it can serve its purpose. We show a few types. Our catalog shows many others. Send for a copy.

Look for this Mark on Every Link

It is your guarantee of service and satisfaction.

CANADIAN LINK-BELT CO., LTD.

Wellington and Peter Streets
TORONTO

Stock also carried at 1195 St. James Street, MONTREAL, Que.

practice, owing to the effect of long time contracts and the inertia of law and custom.

In practice, of course, it will never happen that a change in the amount of currency in circulation takes place unaccompanied by other changes in various economic factors. But the effect of the change in the amount of currency in circulation will be essentially the same, though the influence of other factors (such as an increase or decrease in production of commodities) may be superimposed upon that of the change in circulating medium, so as either to reinforce its effect or to mask it more or less completely.

Now in a modern community there are other things aside from gold that function as a medium of exchange. Coins made from other metals do not materially affect the argument, so far as the United States is concerned, because their total value is but a small fraction of that of the gold in circulation, and their issue and exchange value is fixed by law in terms of gold.

The situation is very different in the case of certain forms of paper currency. Since 1914 Federal Reserve Notes and National Bank Notes amounting in the aggregate to a large value have been issued, which are but partially covered by gold. That portion of the paper currency thus issued, which is not covered by gold, represents so much increase in our total money in circulation.*

Effect of Bank Deposits

Another factor which exerts a very important influence on the purchasing power of the gold dollar is the habit or custom established to a greater or less extent in modern civilized countries, and in particular in our United States, of carrying bank deposits subject to check. Such deposits, formed in part of promissory notes secured by various forms of a non-negotiable property, virtually convert such property into liquid, circulating currency. Using again the words of Prof. Irving Fisher:

"To put it crudely, banking is a device for coining into dollars, land, stoves, and other wealth not generally exchangeable."

The effect of an increasing prevalence of payment by check is very much the same as if the amount of gold in circulation were increased: Taken by itself, that is to say, in the absence of any compensating changes, it is bound to produce a rise in the general price level. Similar remarks apply to the practice of trading on the basis of book credit, since this tends to create offsetting debts, which can be partially cancelled without money changing hands. This again is virtually equivalent to the effect of increasing the amount of money in circulation and tends to bring about a rise in the general price level.

The relation between the principal factors thus affecting the general price level is shown graphically in one of our illustrations.

The upper one of the three diagrams represents conditions in 1896. The money in circulation at that time was 88 billion dollars, its velocity of circulation 18.8—that is to say, each dollar changed hands 18.8 times in a year. This fact is represented in the drawing by a money bag suspended from the scale arm at a point corresponding to 18.8.

Similarly a bankbook suspended at a point 36.6 indicates that in 1896, 2.71 billion dollars of bank deposits circulated with a velocity of 36.6 per annum for each dollar.

These two factors are balanced on the right hand side of the scale by a certain quantity of all kinds of goods multiplied by the lever arm, which here represents the price per unit, expressed in percentages of the 1909 prices. It will be understood that the ordinary principles of the lever are

*The recent issue of Federal Reserve Bank Notes does not represent any expansion of our currency, since they were merely substituted for silver certificates which were retired.





SUPPORT

THE COUNTRY

THAT SUPPORTS YOU

If you consider your personal interests—the interests of your family and the community in which you live, you will

PURCHASE THE PRODUCTS

OF

CANADIAN MILLS

A Canadian Dollar
is Worth One Hundred Cents
in Canada

THE

STEEL COMPANY

OF

CANADA

LIMITED

HAMILTON - - MONTREAL

assumed; the leverage equals weight multiplied by distance, and is equal on both sides. The diagrams for 1914 and 1918 are similarly drawn, but the corresponding figures here are:

	1914.	1918.
Currency in circulation	1.94*	2.46
Velocity of circulation	17	30
Bank deposits	8.89*	12.5
Velocity of circulation	46.8	95.6
General price level, expressed in percentages of that in 1919	104	198

*In billions of dollars.

How does all this apply to the present conditions in the United States?

Over one billion dollars in gold has come into this country from abroad since 1914. On June 30th, 1918, the portion of the gold reserve of the Federal Reserve banking system which supported national bank deposits and Federal reserve notes was three times as large as the gold reserves under the old national banking system on June 30th, 1914. During the same period credit instruments (demand deposits and notes) increased about twofold. There is at present a surplus of about 700 million dollars over the legally required gold reserves, and on a conservative estimate this would be sufficient to support a future expansion of 50 per cent. in our credit instruments.

These factors in themselves go a long way to account for the present high prices, and do not point toward any probable fall of level.

Such a fall might be induced or aided by a return of gold from reserves into circulation. But experience elsewhere and in the past makes such return appear extremely improbable; the habit of carrying gold currency has lost ground in our Western States and also in the United Kingdom.

Another factor which would tend to lower our price level would be the outflow of gold to Europe and to other countries. But we are now the creditors of Europe, and money will flow towards us rather than out of our borders. Nor can we figure with any degree of confidence on the introduction of low-priced goods from Europe when normal trade is re-established, and look for a corresponding outflow of gold. For prices have risen to even higher levels in Europe than they have here.

The reconstruction and rehabilitation of devastated regions will call for loan issues and for extension of bank credits. Our Liberty bonds furnish unrivalled security for further borrowings from banks for commercial purposes, and will continue to exert their credit-expanding effect until redeemed by the Government.

Any attempt to reduce bank credit will meet with strenuous opposition. The hostile attitude of labor toward lowering of wages will deter legislators and bankers from any organized policy of contraction.

Most important of all, perhaps, will be the effect of expanding credit in Europe and elsewhere outside our boundaries. The needs of the war have taught the countries of Europe the uses of deposit banking. In China and India also the system is growing. The result will be much the same as if a new source of gold had been found.

The net conclusion seems to stand out clear: All indications are that we may look for little if any fall in the general price level in the near future; that on the contrary we may expect a rise to continue for a considerable time to come. To sum up in the words of Professor Fisher:

"We are on a new price level, which will be found a stubborn reality. Business men are going to find out that the clever man is not the man who waits, but the one who finds out the new price facts and acts accordingly."

THE CANADIAN APPRAISAL COMPANY
LIMITED

The market conditions of high costs, which arose soon after the outbreak of war and have ruled ever since, have very largely destroyed the significance of figures of original costs appearing in Plant Accounts, particularly where these represent properties installed or acquired in pre-war times. Such figures are to-day misleading, and dangerous if adopted as a basis for insurance, and equally so for determining present day manufacturing costs.

Complete Insurance protection calls for present day values. The cost of replacing any but a new plant to-day would almost invariably be much greater than when it was originally installed, and if it is not insured on this basis of to-day's values you become a co-insurer; in other words, you are not fully protected, and in the event of a loss by fire you may have to bear a substantial part of such loss yourselves.

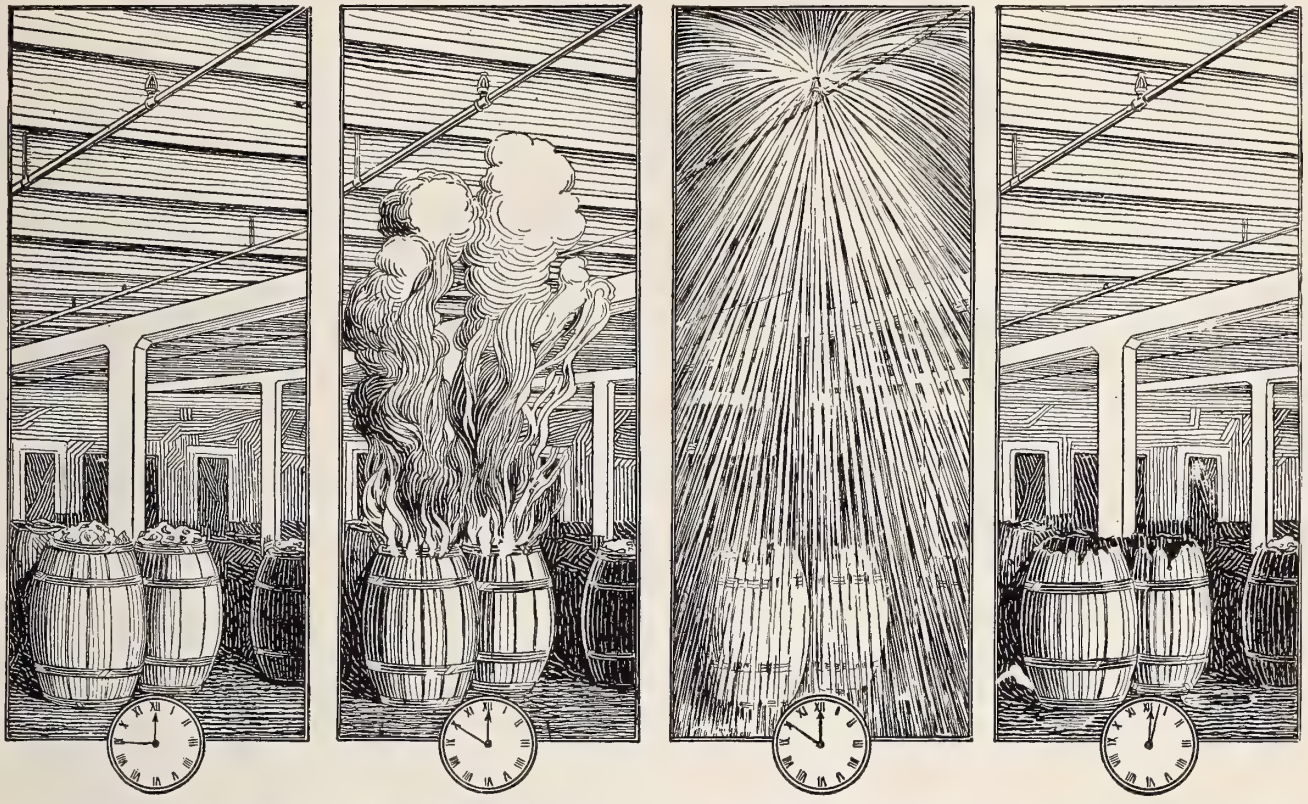
For the same reasons, a cost system based on pre-war costs is to-day a delusion and a snare.

CORRESPONDENCE INVITED

HEAD OFFICE, 17 ST. JOHN ST. MONTREAL

TORONTO Royal Bank Bldg.

NEW YORK Equitable Bldg.



1. On duty with many others waiting for a fire—waiting, perhaps, for thirty years, up in the dust and cobwebs near the ceiling.

2. Here comes the fire at midnight! The column of heat rises, and at 155° the fusible strut in the nearest Grinnell softens and melts.

3. Snap!—spurt!—splash! A drenching downpour, right on the heart of the fire, and there only. Alarm bell clanging in the distance.

4. Fire out before watchman arrives. Water turned off. No damage worth reporting. Next morning—business going on as usual.

SNAP !---SPURT !---SPLASH !

Here's a "GRINNELL" in Action!

FIRE can't start under a Grinnell Automatic Sprinkler System without starting the Sprinkler overhead. Just as sure as fire means ascending heat the fusible strut in a Grinnell Sprinkler head will melt at 155°, and release a drenching downpour of spray and ring the Fire Alarm.

If you own and occupy your own building, the saving in Insurance pays for the System in from three to seven years. If you don't have Sprinklers, you are paying for them anyway, and not getting the protection.

The best Sprinkler System is the Grinnell. Its price is a shade higher and it gets the price right along.

The Grinnell Standard is higher than the Fire Underwriters require. We don't try to see how close we can skate to the line. We are not content with satisfying minimum regulations. We undertake to give infallible fire protection. We maintain the only research laboratories in the trade.

A hundred Grinnell engineers have the whole technique of sprinkler engineering at their finger tips. Grinnell's, to-day, protects more property than all other systems put together.

Write us and get the facts and figures to-day—Without cost or obligation to you.

CANADIAN GENERAL FIRE EXTINGUISHER CO.
LIMITED

W. L. HORN, Managing Director

TORONTO, ONT.—2440 DUNDAS ST.
WINNIPEG, MAN.—910 SOMERSET BLDG.
MONTREAL, QUE.—370 BEAUMONT AVE.
VANCOUVER, B.C.—1140 HAMILTON ST.

SERVICE SPECIALISTS on G. F. E. Fittings, Steam and Hot Water Heating Installations, Power Piping.

A NEW COMMANDMENT FOR LABOR

In view of all the signs and portents of the times one of the first of the new commandments should be,—"Thou shalt not strike"—and in the term "strike" should be included lock-outs or any other form of deliberate interruption of the normal flow of the currents of trade and commerce.

By HORATIO BOTTOMLEY, M.P.,
Editor of "John Bull."

It is a very long time since Moses brought those tablets bearing the Ten Commandments down from Mount Sinai; and having regard to their antiquity, I think it will be generally conceded that, on the whole, they have fairly well served the purpose of covering most of the things people should not do, down to the present time. We are, however, living in abnormal days, and are on the brink of an entirely new era, and now that the Government has taken up my suggestion for a HOME Peace Conference, I would venture to throw out a hint to the Church that, in its turn, it might convene a special Congress to modernize its doctrines and ritual, including an up-to-date revision of the Commandments.

And I do not hesitate to say that in view of all the signs and portents of the times one of the first of such new commandments should be—"Thou shalt not strike!"—and in the term "strike" I, of course, include a lock-out or any other form of deliberate interruption of the normal flow of the currents of trade and commerce.

I listened very intently to most of the discussion in the House of Commons on the miners' troubles, and I carefully studied and noted the attitude of the speeches of the men's so-called Leaders—each of whom, in acknowledging the reasonableness of the Government's attitude, could do no more than promise to "recommend"—sadly admitting his utter powerlessness to "lead." The truth is that Labor has got out of hand. It is catching the infection of the Red Peril now threatening the whole world—still smarting from the scourge of war—is being overtaken by an epidemic of anarchy.

And all these strikes, and threats of strikes, are but natural corollaries. I do wish the working classes could be made to understand these things. What is wanted now is a great Home Propaganda—conducted, not by political deadheads and duds, but by men who understand and are "understanded of" the people. There is not a moment to lose. The miners, the railwaymen, and the transport workers must be made to realize that on *their* shoulders rests to-day the most solemn responsibility mankind ever had to sustain. The wages of sin, we are told, are death; the wages of strikes are death, bloodshed, starvation, anarchy, and the murder of little children and they are also—in the case of Britain—shattering of Empire, and loss of trade. Should the strikes come, then, by a blasphemous irony, England will soon be in the same position as Germany and Russia. And all that, by their villainy and their cunning, the Bolshevists and the Schemers will have done.

Let Workers Be on Guard

"Thou shalt not strike!" Let that commandment ring from every pulpit and from every platform, and from every paper during the next fortnight. Let the workers be on their guard. I know we have the assurance of the Government that preparation has been made "for taking action at the proper moment against those who are considered to be ringleaders in Bolshevist activities in this country"; but the proper moment is *now*. And the first thing to be done is to



Are you, ***Mr. Manufacturer,*** satisfied with the **Quality** and **Delivery** of your Malleable Iron Castings?

Another satisfied customer writes us:

"Your service and material has been satisfactory for 1918 and we are very well pleased with both. You have at all times been able to give us the very best of castings and your service has been admirable.

We are only too glad to tell you this and hope that your other customers are as well satisfied as we are."

MAY WE EXPECT AN ENQUIRY FROM YOU?

McKINNON INDUSTRIES, LIMITED

St. Catharines, Ontario, Canada



Ford Motor Co. of Canada Ltd.
Ford, Ont.

Built by WELLS AND GRAY LIMITED
Engineers and Contractors

WE have built the whole of this plant. We started work in 1910 and have continued without interruption for eight years. Our men are still working on extensions to this plant.

All buildings are permanent, fireproof and modern, reinforced concrete being used almost exclusively.

We have the organization and equipment to handle this work quickly and economically.

WELLS AND GRAY, LIMITED

Engineers and Contractors

Branch Office:
Bank of Commerce Bldg.,
Windsor, Ont.

TORONTO, ONT.,
701 Confederation Life Bldg.

abolish that moth-eaten and dangerous old doctrine of the Right of Asylum. How many spies and enemy emissaries of all kinds have been smuggled into Britain under the protection of that silly theory, we shall never know. But is must now go—once and forever. We must cleanse our shores of all suspects, and must not be too particular as to how we go about it.

Capital Nearly Exhausted

At heart the British working-man is sound, and he is not a fool. The war, however, has taught him how rich the world really is, and he will take a lot of convincing that our available wealth—that is to say, our capital—is nearly exhausted. He will have made a note of the statement in Parliament last week that, even now—three months after the Armistice—we are spending daily within £1,000,000 of what the war was costing us; that is to say, we are finding in one way and another £6,000,000 or £7,000,000 every day in the way of abnormal expenditure. And the miners, and the railwaymen, and the transport workers, have an idea that a few shillings more on their wages and a few hours more off their work really won't make a very great difference in the end to anybody. And who shall blame them? On the other hand, who shall enlighten them?

How shall they be made to understand that, having spent, since the beginning of the war, ten thousand millions of money, and raised only two thousand five hundred millions, there is a little matter of seven thousand five hundred millions to be put right? Of that sum, we have lent our Allies and Dominions, and Russia, about two thousand millions—most of which we shall never see again—but assuming it all comes back, there is still what the financiers call a deadweight debt of over five thousand millions—and *that debt is a first charge upon industry;* that is to say, upon both Capital and Labor.

Oh, yes, my working-class friend, we mustn't forget Capital—without which, your labor is useless. Cripple Capital, and you kill Labor. And that is just what is happening to-day. The nation has been suffering from the consuming fever of war, and for nearly five years we have been living on ourselves devouring our own flesh. And there are two ways only of putting things right.

Here they are: First, we must try to get back those ten thousand millions from Germany—not necessarily in money, but in kind. If we can do that, prices will come down to such an extent at home that your wages will buy twice as much as they do to-day. But here you have to reckon with the Politicians and the Idealists—who don't want to "crush Germany." Well, we must ginger them up!

And here is the other way—and it concerns you. *We must increase production and output to the uttermost limit*—in order to replace the lost wealth of the nation. That is where you—*and the capitalist*—come in. And if you will do it—but only *if* you will—then you can have your increase in pay and your decrease in hours.

But there is no middle course. Nor is there any time for hesitation. The Bolshies and the Yanks are watching!

A Valuable Tourist Trade

Japan receives from visitors to her shores a sum exceeding the value of her exports of coal. The Mikado's Empire is estimated to have received more than 30,000,000 yen from the influx of foreigners in 1918, or $2,000,000 more than the total exports of coal made by Japan. Japanese coal dominates the fuel situation in this part of the world.

Canadian Carbonate Company, Limited

Offices and Factories:

HALIFAX, MONTREAL, TORONTO

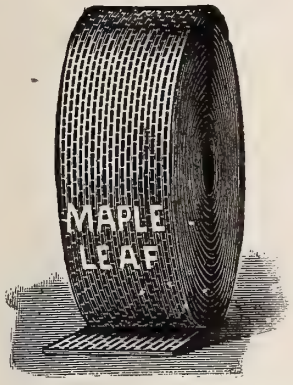
WINNIPEG, VANCOUVER

■

Manufacturers of

"CROWN BRAND" LIQUID CARBONIC ACID GAS

Dominion Belting Co., Limited
Hamilton, Canada



SOLE MANUFACTURERS OF THE CELEBRATED

"MAPLE LEAF" BRAND

STITCHED COTTON DUCK BELTING—

STRONG DURABLE ECONOMICAL
TRUE RUNNING

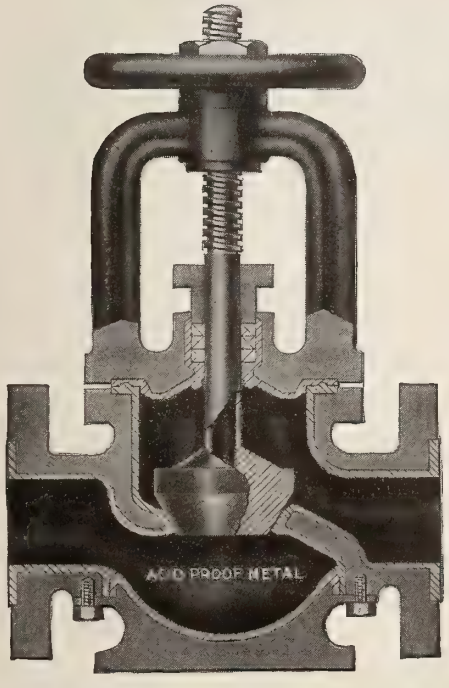
Being thoroughly waterproof it is equally good for running in wet or dry places. As a main drive belt, "MAPLE LEAF" cannot be excelled and for conveyors it is in great demand. A trial belt will convince you

MAPLE LEAF BELT DRESSING
The Best for all kinds of Belts

WRITE FOR SAMPLE AND PRICES

Quebec Branch: 51 Duluth Building, Montreal

Acid Resisting Pump Valves



We wish to call your careful attention to our line of Acid Resisting Pumps, Valves and Fittings, they are absolutely perfect in detail. In price comparison with Acid Resisting Bronze Valves, etc., they make an enormous saving in your initial cost.

For lining Acid Tanks, Agitators, and Sulphite or Sulphate Vats, Hoyt's Sheet Metal will give far better service than the ordinary Chemical Sheet Lead in the market. If you will write us stating conditions under which your Sheet Lead is operating, we would be pleased to go into the matter fully and will convince you of the economy of Hoyt's Sheet Metal.

Write for Catalogue

HOYT METAL COMPANY

FACTORIES:
London, England; Toronto, Canada; St. Louis, Mo.
New York, N.Y.

"LABOR PRODUCES ALL WEALTH"

Fallacy of the oft-repeated claim is disclosed. Labor alone does not produce wealth, but labor plus directing ability does. One is just as necessary as the other, and one cannot do anything without the other. Without leadership there can be no programme.

By F. C. O'Meara.

(From the "Michigan Manufacturer.")

I was making a speech, the other day, to a little group of workmen in a factory out in the state, when an earnest young man spoke up. I had been talking about the cares and worries of the employer. The young man said:

"What you say about the bosses' putting in long hours over their desks after the rest of us have gone home, and getting grey-headed wondering how they are going to keep wages up in spite of lower prices for the things we turn out in the factories, gives me a pain. Don't you know that labor produces everything? Don't you know that most bosses, when they sit up at night in their offices, sit up figuring on how they can make more money out of us?"

I started to reply to him, but he had a little more to say and would not let me go on. He continued:

"We are taking the boss's money only until we get ready to take charge of the factories ourselves. One of these fine days you capitalists are going to wake up to find your businesses in the hands of the proletariat. That's where the control of industry belongs, and that's where it's going to be, ten years from now. The workingman is going to get what belongs to him—if not peacefully, then we're going to get rough. We're only biding our time."

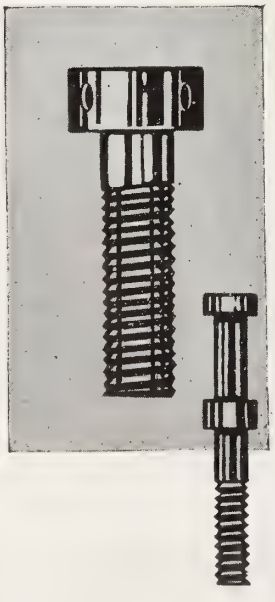
"My dear young man," I said to him, after he had sat down, "you have fallen into one of the two or three fundamental errors that lie at the bottom of socialism. You believe that labor produces everything, which is not true. I think you believe, too, that all men are equal as regards capabilities, and that in place of our present economic system, we should substitute another under which all men would be reduced to a dead level—where every man would receive the same wages, and where there would be no incentive for men to try to get ahead. A good many well-meaning people who don't take the time to think the thing through have been misled just as you have been. Now let's reason a little.

A Case In Point

"You have been told that labor produces all wealth, and you believe it. Suppose we take the case of an industry that you all know about, and see how the theory that labor produces everything would work out. Suppose that to-morrow morning we could order all the executives out of the offices of the Ford Motor Company. We would take away the president and the secretary and the treasurer and the sales manager and the production manager and the advertising manager and all the rest of the men who direct the policies and activities of the company. The only people we would leave would be the men who run the machines out in the factory. How many automobiles do you suppose would be turned out of the Ford plant from that time on, and how many would be sold? I predict, and I think every reasonable man will agree with me, that the Ford plant would close up inside of a week.

"More than that, before the first day was over 10,000 men in the Ford plant would be trying out 10,000 different ways to do the operations they had been taught to do in the only

SHEET METAL STAMPINGS and AUTOMATIC SCREW MACHINE PRODUCTS



Government precision calls for work that is absolutely perfect in each detail. We have supplied that work, and our experts and modern machinery used in so doing now stand at our customers' disposal running with the same accuracy.

Years of experience have taught us how to discriminate in selecting our material so that the work produced is of the finest quality and workmanship, while our prices remain reasonable and popular.

We will be pleased to give you our estimate on your next order.

CARON BROTHERS
CARON BUILDING
233-239 Bleury St. - - MONTREAL

BATHURST

ROUGH OR DRESSED
LUMBER

Get our prices on carload lots,
especially if you are interested in

SPRUCE AND WHITE PINE



We have timber limits extending over 1,500 square miles. We operate up-to-date planing and resaw mills having a very large capacity, with the result that our prices and service are the best obtainable.

KRAFT and UNBLEACHED SULPHITE PULP

Our output of each is 50 tons daily

Bathurst Lumber Co., Limited, Bathurst, N.B.

way that long practice had shown to be correct. Nine of our every ten departments would be tied up tighter than a drum.

"One man, for example, has for a long time been cocksure that different gears ought to be made of bronze instead of steel. Of course, he never had had a chance to try it out because the 'capitalists' in the 'front office' had ruled that differential gears should be made of steel—and, what is more to the point, had provided supplies of steel only for the differential gear department. But now that there are no more 'bosses,' says this particular workman, we'll make the gears out of bronze. He happens to be a good talker, so he gets up and makes a speech about the advantages of making gears out of bronze. Being a convincing talker, he finds a few hundred other workmen to agree with him. If the men in the other departments balk, why, the bronze gear man and his adherents will go out on strike.

Cars Without Piston Rings

"Another man has never had any particular liking for piston rings—and besides, he has always argued, the people who make the piston rings haven't treated their men right. So he'll make a speech in favor of throwing the piston rings on the scrap pile. He and his followers would make cars without piston rings. If the rest won't agree, we'll walk out. To hell with the others.

"Or suppose these two men won over the whole force—and the plant began turning out differential gears made of bronze and pistons without piston rings. How many Ford cars would be sold—even if by some miracle the workmen could maintain the sales organization?

"And so it would go on down the line.

"What would be the result for all parties concerned? What of the workmen themselves? Certainly, with the plant tied up, they would be out of jobs. How about the grocers and the butchers and the clothiers who depend on these workmen for their livelihood? Certainly without work there could not long be wages—unless, of course, the workmen began commandeering wealth. And what would become of the other manufacturers and the farmers, with their employees, who depend on the grocers and the clothing merchants? What would become of the whole fabric of our material existence? If what I have just outlined as happening in the Ford plant happened to all industry—and that is just what would happen if the directing brain power were removed from industry—America and the rest of the world as well would be reduced to chaos in no time.

The Result in Russia

"We see the thing working out in Russia. The working people arose and took matters into their own hands. What has been the result? Absolute stagnation of industry, poverty, want, bloodshed, starvation and death. Lenine and Trotzky were sure it would work, but now, after many weary months of outrages and pillage the like of which the world never before witnessed, the two of them at last have become convinced that it will not work. They have opened negotiations with the rest of the world to come back into the fold.

"No labor does not produce wealth. Labor PLUS DIRECTING ABILITY produces wealth. One is just as necessary as the other; one cannot do anything without the other. The first rule of civilization is the necessity of leadership. Without leadership there can be no progress.

"Now because of the very nature of the possession of the qualities that make for leadership, leadership begets jealousy on the part of those not possessed of these qualities. It is only human nature that one should envy the attainments of

SELLING The Consumer Seventy-two Years EXPERIENCE

THAT is what you do when you sell McClary's Goods. Seventy-two years ago McClary's began to manufacture and sell good goods. To four separate generations the same quality has been supplied. Each generation has told to its children the worth of McClary's goods. To-day, the fourth, is receiving its McClary's education through consumer satisfaction, National and Local advertising. This force of publicity is forever flowing strongly and creating sales. Dealers should take full advantage of our co-operative business methods. Full information sent on request to our nearest branch.

McClary's

LONDON, TORONTO, MONTREAL, WINNIPEG, VANCOUVER, ST. JOHN, N.B., HAMILTON, CALGARY, SASKATOON

The Hamilton Bridge Works Co. Limited

HAMILTON, - ONTARIO

ENGINEERS, MANUFACTURERS and CONTRACTORS

Steel Railway Bridges
Steel Highway Bridges
Steel Buildings
Steel for Ships
Steel Turntables
Steel Trusses and Columns



Capacity 36,000 tons

5,000 tons of Standard Shapes of Structural Material in our yards for immediate shipment.

Enquiries solicited

The above is a building recently erected for the Steel Company of Canada at Hamilton, Ontario

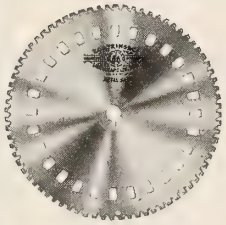
Wire Cloth

of every description

We make **Machinery Guards** of all kinds.
Metal Lockers for Clothes
Steel Shelving for all purposes.
Drop a line for full details.

CANADA WIRE & IRON GOODS CO.
HAMILTON, ONTARIO
Eastern Representative:
H. E. Bull, 184 Mance St.
Montreal, P.Q.





ATKINS
Circular Metal Cutting
SAWS

THEY withstand constant wear and cut their way easily, because they possess to the highest degree both toughness and ductility. Atkins skillful smithing insures an accurate cutting. A comparative test will demonstrate these facts. Our free booklet on Atkins Circular Metal Cutting Saws contains a wealth of information. Send for it.

E. C. Atkins & Co.

The Sterling Quality Saw People

Established 1857

Canadian Factory
HAMILTON, Ont.

Canadian Branch
VANCOUVER, B.C.

"BEATTY"



Material Handling Plant has back of it 55 years of successful experience.

HOISTING ENGINES
STEEL DERRICKS
DIPPER DREDGES
CLAMSHELL BUCKETS
DERRICK IRONS
SUCTION DREDGES
etc.

Write us for Catalogue 21 and Prices

M. BEATTY & SONS, Limited, WELLAND

AGENTS:
H. E. Plant, 1790 St. James St., Montreal
R. Hamilton & Co., Vancouver
Kelley-Powell Ltd., Winnipeg
E. Leonard & Sons, St. John



HIGH-CLASS MADE-IN-CANADA

AIR COMPRESSORS

Send us your inquiries

HAMILTON MOTOR WORKS, LIMITED
HAMILTON CANADA

FORGED STEEL TOOLS
AXES, HAMMERS, WRENCHES
CANADA
FOUNDRIES & FORGINGS, LIMITED
BROCKVILLE, CANADA

his more fortunate fellows—the divine injunction to the contrary notwithstanding. For leadership implies authority, and possession of a somewhat larger share of this world's goods. And the envious men and the men who lack the ambition to try to develop their own qualities which would give them leadership, would take possession of the other fellow's possessions by force. Which, whether it be organized, legalized robbery or not, is still robbery. And civilization has never subsisted on robbery. As civilization advanced, robbery grew more and more unpopular, because its devotees found it increasingly difficult to remain at liberty.

"We cannot countenance robbery to-day any more than we could in medieval times. We cannot countenance it because, in the first place, it is contrary to human ideals; and again, because it would tear down all that civilization has built up throughout the ages.

"Instead of robbery, we must have the individual desire to excel. And if that desire is to be translated into accomplishment, we must have coupled with it the willingness to pay the price of effort to attain. We must be willing to study, to develop ourselves, to spend unstintingly of our energy, mental and physical, but particularly mental. Individual attainment is the only answer to socialism.

"And as to your belief that all men are equal in ability, and could be held down to a level, I have only to say to you that human nature is not so constituted. The few would promptly rise again from the mass and we should once more have our present industrial order."

"I'll think it over,' the workman replied to me.

Workmen's Compensation

Results Are Announced Under the Fourth Year of Operation of the Ontario Act

According to the annual report of the Ontario Workmen's Compensation Board, covering the fourth year's operation of the Act, $3,514,648 was awarded last year for compensation and $369,346 for medical aid, the number of cheques issued per day being 248 for compensation and 139 for medical aid. Payment was made for 40,930 accidents, 382 of these being death cases, 2,549 causing some degree of permanent disability, 25,446 causing only temporary disability, and 12,553 involving only medical aid. It is estimated that over 500,000 workmen are covered by the provisions of the Act.

As the disability in serious accidents often continues into and sometimes beyond the following year, complete statistics can only be given for the prior year. These show that about 75 per cent. of the injured workmen were British subjects and 25 per cent. foreign—6½ per cent. being Austrians, 6 per cent. Italians, 5½ per cent. Russians, and 2½ per cent. citizens of the United States.

The average weekly wage of injured workmen was $19.06, and the average age 34.07 years. The total time loss from accidents during the year was 565,526 days; the average length of temporary disability was 21 days.

Machinery caused about 32 per cent. of all the accidents; the handling or moving of objects, 28 per cent., and falls of the workmen, 10 per cent. The most prolific individual causes were saws, which caused 892 accidents; lathes, 891; presses, 813; hoisting apparatus, 785; abrasive wheels, 781; belts, pulleys, chains and sprockets, 390, of which 7 were fatal; planers, jointers, and edgers, 260; shapers, moulders and headers, 121; shafting, couplings, and set screws, 75, of which 6 were fatal. Falls from vehicles caused 260; collapse of support, 276. Hot and inflammable substances caused 1,018 accidents; falling objects caused 1,256, and runaway animals, 98.



Manufacturers, PREVENT Big Fires by "nipping them in the bud," with

"IMPERIAL" FIRE EXTINGUISHERS

(Every "IMPERIAL" bears the Underwriters' label)

If your factory burns, how will you fill orders during the long period of rebuilding? How will you hold your customers? How will you hold your employees? Your *Insurance* won't do all this!

Every Insurance Company makes an allowance on the premium rate for the installation of APPROVED Extinguishers.

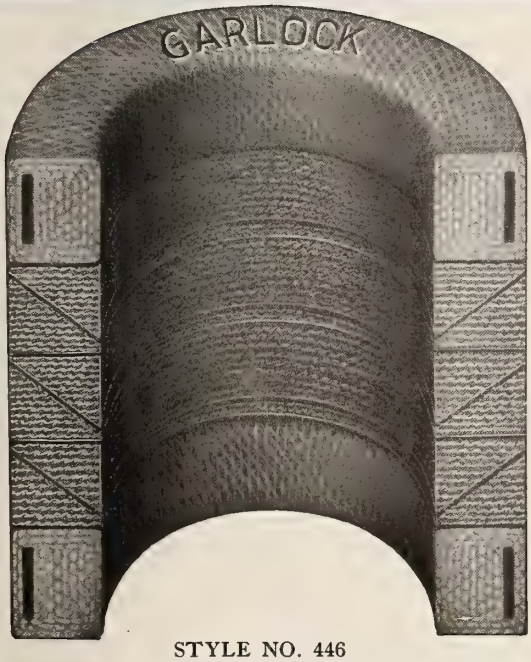
Your Insurance Agent can tell the exact amount an "IMPERIAL" will save you.

"Put the Fire out before it Puts you out"

Send for Booklet and Prices

The Booth-Coulter Copper & Brass Co. Limited

115 Sumach Street • TORONTO, Ont.



STYLE NO. 446

FOR PACKING

High Pressure Steam Rods
Use Garlock Style Number 200

Medium Pressure Steam Rods
Use Garlock Style Number 446

Low Pressure Steam Rods
Use Garlock Style Number 333

High Pressure Steam Joints
Use Garlock Style Number 950

Ordinary Steam Joints
Use Garlock Style Number 22

Worn or Scored Piston Rods
Use Garlock Style Number 336

Cold Water Piston Rods
Use Garlock Style Number 99

Inside Packed Plungers
Use Garlock Style Number 260

These packings are guaranteed to give satisfactory service under the above conditions.
Write for catalog.

The GARLOCK PACKING COMPANY, Hamilton, Ontario

Branches:

Calgary, Alta., 211 8th Avenue West
Montreal, Que., 409 Shaughnessy Bldg.
Winnipeg, Man., Galt Bldg.
Toronto, Ont., 404 Continental Life Bldg.

Jas. W. Foley & Co.
POTTERS
ST. JOHN - - N.B.



Stoneware, Rockingham Ware, Flower Pots, Stove Linings, Etc., Etc.

MADE IN CANADA
OLD TYME
PURE SAP
MAPLE SYRUP
EVERYBODY LIKES IT
LION BRAND
MAPLE BUTTER
1 lb Tins
SOLD EVERYWHERE
IT'S DELICIOUS

Maples Limited
Manufacturers and Refiners
TORONTO CANADA

THE AUSTRALIAN ATTITUDE

Influential trade organ in Australia voices the opinion that certain precautions should be taken to prevent German goods from getting back into the domestic market. The consumer should know what and whence he buys. Manufacturers' agents should be registered.

(From "Australian Hardware & Machinery.")

That a strong feeling exists throughout Australia against the resumption of business with those from whose arrogance and inhumanity the world has suffered so much during the past four years becomes more evident every day. Certain firms have publicly declared their intention to have nothing to do with Germany, especially, until she has purged herself of her rank offences. Stinging refusals were recently sent by two Australian firms of wholesale chemists to a German firm in New York, who had written to advise their readiness to supply certain chemicals. "None of us here want your products, your countrymen, or your communications" was the emphatic declaration with which one of the letters closed. A previous paragraph of a personal character helps to explain the emphasis. "The writer of this is the senior of our firm. His eldest son was a wounded prisoner in your hands, and we know at first hand to what depths of inhuman methods in that direction you can go. The writer's second son, a medical student doing his humane work in the Army Medical in Gallipoli, was killed in the field by your associates, the Turks, who were, until you showed yourselves the bloodiest murderers of Europe, your very fit associates."

Country of Origin Should be Indicated

The question is how it can or should be left to individual preference or patriotism to decide whether they shall buy or sell German goods. No doubt the League of Nations when it comes will lay down broad principles for the guidance of all its members. But even then we shall be free to choose, to prefer, or disparage any goods. Certain precautions are obviously the right and duty of every British community. On every package of goods sold to the consuming public, for one thing, the country or origin should be clearly indicated. The recent amendment of the Sale of Goods Act in Victoria permits of the same regulation being applied to every sale made within that State. In no other part of Australia, nor in New Zealand, is this at present possible. But every Government should introduce such a law. The regulations should provide that the source or country of origin—British, Swiss, German, or Australian—must be clearly shown on every article or parcel sold to a consumer, and (as in the Victorian Act) anything which obliterates or obscures this statement should be made an offence. In other words, the consumer should know what and whence he buys.

Every person (or firm), again, who trades in Australia or New Zealand as the resident or visiting agent of outside manufacturers should be required to disclose his own nationality and the constitution and source of the capital of the firms he represents. This was suggested in our columns some time ago, and the suggestion has been very widely endorsed by representative bodies.

A note printed elsewhere shows that Switzerland recognizes that a commercial invasion is taking place of Germans who are purchasing Swiss businesses, Germanizing them in everything but name, and hoping by this means to avoid the commercial isolation which might otherwise be experienced. Two years ago Germans had purchased 62 per cent. of the water power of Switzerland. A few months ago



Are You Sure it is Right?

—that oil, water, or even more complex material you are using in your manufacturing? Has it the requisite properties? Are you ***positive*** it is doing what you think it is?

Every manufacturer some time or other has doubts, which, in the interests of his business, he dare not disregard.

It is our daily work to analyze and test all commercial materials, reporting exact and detailed facts and figures.

Our well equipped laboratories and thoroughly practical chemists are at your service at all times

THE LARGEST AND BEST EQUIPPED COMMERCIAL LABORATORIES IN CANADA

MILTON HERSEY COMPANY, LIMITED

Industrial Chemists, Engineers and Inspectors
MONTREAL and WINNIPEG

ELECTRICAL SUPPLIES

ALWAYS IN STOCK



FOR IMMEDIATE DELIVERY

EDISON MAZDA LAMPS
WIRE, CORDS AND CABLES
WIRING DEVICES, ALL KINDS
CONDUIT AND FITTINGS
SQUARE D SAFETY SWITCHES
SQUARE D MOTOR STARTERS
ECONOMY FUSES
EMERSON FANS
LIGHTING FIXTURES
LAMP GUARDS
LAMP REFLECTORS
DOUBLE-SURE TAPE

McDONALD & WILLSON Limited

347 YONGE STREET - TORONTO



The recent additions to our boiler shops have placed us in a better position than ever to turn out Steel Plate work efficiently and economically. Let us quote on your next requirements in :

CONVEYORS	STEEL TANKS
SMOKE BREECHINGS	STORAGE BINS
STEEL STACKS	COOKERS AND DIGESTORS
SPARK ARRESTORS	STEEL GAS MAINS
STEEL BUCKETS	REFUSE BURNERS
ELEVATORS	WELDED TANKS
RIVETED TANKS	SETTLING TANKS

Waterous
BRANTFORD, ONTARIO, CANADA

STRUCTURAL STEEL
and
BRIDGE BUILDERS



We build and erect all kinds of Structural Steel, Bridges, Roof Trusses, Bank and Office Railings, Stair Work, Elevator Grills, Fire Escapes, etc.

Over 5,000 Tons in Stock of Beams, Column Sections, Angles, Tees, Plates, Bars, Checkered Floor Plates, etc.

McGregor & McIntyre, Limited
1139 SHAW ST. TORONTO, CAN.

it was indicated that in Spain also attempts were being made by Germans to establish business houses for the purpose of recovering their foreign relations. Another illustration of this sort of thing is a letter in *The Ironmonger*, London, of December 28th last, where a catalogue of high-class machine tools of the Danish Machine Co., Copenhagen, printed in English, is shown by a correspondent to reproduce photographs of machines which before the war were in the catalogue of Alfred Schmahl, of Wotanhaus, Hamburg.

Where Two Countries Are Concerned

In the case of goods which are partly manufactured in one country and partly in another some difficulties arise. Razors forged in Sheffield used to be sent over to Germany to be hollowground, and there were similar cases of manufacturing operations begun in one country and finished or carried a step further in another. Some clear indication of the course to be followed in such cases should be given, but whatever the course the facts should be disclosed. Little hardship should accrue if it were required that such razors, for example, should be labelled: "Manufactured in England; ground and polished in Germany." What possible reason can there be for concealing the actual industrial history of every article unless it it hoped that thereby SOMEONE MAY BE DECEIVED and therefore be more ready to buy?

National Waste

Deterioration and Decay of Property Through Lack of Paint Causes More Loss Than Fire

It is undoubtedly a fact that there is more actual money lost in Canada every year through deterioration and decay in buildings, due to failure to protect property properly and preserve with paint, than accrues from losses by fire.

When it is remembered that fire losses during 1918 amounted to $33,623,000 it will begin to be realized what an appalling loss property deterioration brings and the necessity of grappling with this problem without delay.

The property owner who fails to protect his buildings with fire insurance is considered very shortsighted, and there are few owners who fail to pay their bill for fire insurance premiums regularly. When the property owner pays for protection against fire, he is providing against a possible loss, but if he fails to pay for painting and repainting his property with sufficient frequency to preserve it from decay, he fails to protect himself against certain loss.

Professor H. H. King, of the State Agricultural College of Kansas, in a letter written April 17, 1916, makes this statement:

"The losses ensuing in this State through lack of paint are much greater than the losses sustained by fire. Paint serves more than the mere purpose of decorating. Its principal value lies in the fact that it prolongs the life of the surface that is painted. Wood and iron exposed to air undergo a slow process of oxidation, which just as surely destroys them as though they were set on fire, the difference being the speed at which the reaction comes."

Obviously—it is most desirable that some definite effort should be made to bring about a condition in the minds of property owners which will insure the application of paint coatings to their buildings with sufficient frequency to protect and preserve them indefinitely from the action of the elements.

Property owners should face the fact that the first and most important purpose of paint is to protect and preserve, while the decorative feature, important and desirable as it is, is nevertheless, secondary.

ALCOHOL



Plant of Canadian Industrial Alcohol Company Limited, Corbyville, Ont.

With a capacity of 450,000 (proof) gallons per month we are the largest producers of Alcohol in Canada.

Manufacturers of vinegar, perfumes, essences, pharmaceutical preparations, etc., are invited to write us for prices of Alcohol suitable for their particular line of business.

We make a special feature of contracting for the requirements of manufacturers for the year or season, thus providing not only a uniform cost but also a steady supply as needed.

Those who are using Duty Paid Alcohol in their manufacturing processes would do well to consult us with a view to using it "In Bond," thus avoiding the use of two-year-old Alcohol. Under the rules and regulations of the Department of Inland Revenue, newly made Alcohol may be used "In Bond." This Alcohol is much cheaper than two-year-old.

METHYLATED SPIRITS or Denatured Alcohol is sold only by the Department of Inland Revenue, Ottawa, Ont., but any other kind of Alcohol may be secured from us.

CANADIAN INDUSTRIAL ALCOHOL COMPANY LIMITED

MONTREAL, QUE.



HERE IS A

Brass Gate Valve

You will find it always made from HighGradeSteam Metal and beautifully finished.

They are not made of one quality this year and another next. Always reliable and worth the price you pay.

The Kerr Engine Co., Limited

VALVE SPECIALISTS

WALKERVILLE - ONTARIO



NO man's money can buy better boilers or service than we sell him.

Horizontal Return, Tubular, Vertical Tubular and Locomotive Type Boilers.

Smoke Stacks, Steel Tanks, etc.

Something new and better—Keystone Traction Shovel (Model 4)—"it gets there and digs"

ENGINEERING & MACHINE WORKS OF CANADA, Limited

ST. CATHARINES, ONTARIO

Eastern Sales Office:
HALL MACHINERY CO., Sherbrooke, Que.

A SUCCESSFUL CAFETERIA

The cafeteria described, that of Henry Disston & Sons, Inc., was opened last April, and has proved a remarkable success from the start. Cafeterias are now admitted to be practically indispensable adjuncts to modern industrial establishments, and the following description of the Disston cafeteria should prove of value.

By Arthur N. Blum, M.E.

(From "Safety Engineering.")

The British Ministry of Munitions, under Lloyd George, appointed a committee which made a thorough investigation as to the necessity of and advantages derived from industrial restaurants. The report of this committee (*Health of the Munition Worker*, London, 1917) was summed up in the following:

DIRECT BENEFITS

1. Marked improvement in health of worker.
2. Less sickness.
3. Less absence and broken time.
4. Less tendency to alcoholism.
5. Increased efficiency and output.

INDIRECT BENEFITS

1. Saving time of worker.
2. Salutary change from workshop.
3. Greater contentment of worker.
4. Better midday ventilation of workshop.
5. Increase of recreation and games in spare time.

The Government of the United States has followed up these investigations and the consensus of opinion of both private owned companies and Government establishments has emphasized the benefits stated above.

Especially in places more or less distant from town centres, where public restaurants are poor or not available at all, industrial restaurants are regarded at the present time as an absolute necessity and have been actually installed by most factories of repute in this country.

Beneficial Under War Conditions

To characterize further the conditions under which we ourselves approached the subject last year, it suffices to remember that the country was at war and an unparalleled labor shortage, coupled with a ruinous labor turnover, made it imperative to seek means to check both in order not only to reduce the waste in money and energy, but to fill the urgently needed war orders. As shown above, no other welfare undertaking could, under the prevailing conditions, be more beneficial and attractive to the men (and at the same time without any suggestion of charity, which, of course, the men do not want), than a modern factory restaurant. Consequently, the officers of this company decided in October, 1918, to build a restaurant for our men, and instructed the writer to go ahead with the proposition.

A lot, conveniently located to the saw, file and steel works, 200 x 300 feet, fronting Wissinoming Street, Tacony, was dedicated by the company for the purpose.

As the first step, we sent out a considerable number of specially prepared questionnaires to factories having modern restaurants in operation, covering details of the building, equipment, and type of service. Coincidently, several special restaurant outfitting firms were invited to quote, and quite a few of the largest restaurants of this character were visited and investigated.

Based on this data we found:

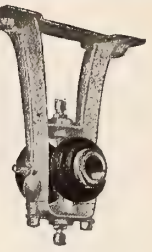
1. That the best type suitable for quick service of large numbers (in fact the only type possible) is the Cafeteria type of restaurant, in which the men serve themselves in



Efficiency
Durability
Cleanliness



Made
in
Canada



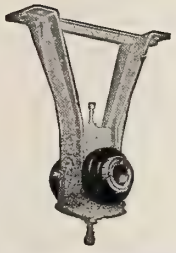
"Yes, They May Be Good, But What Do They Save Me?"

Answer:—There is no "may be" about it.

CHAPMAN DOUBLE BALL BEARINGS on your line shafting will save from 15% to 40% of your total power cost; 95% less lubrication; absolute freedom from oil drip and hot boxes. No upkeep or attention costs whatever.

That is their record of performance in over 4,000 plants in Canada and the United States.

THEY WILL FIT YOUR PRESENT HANGER FRAMES

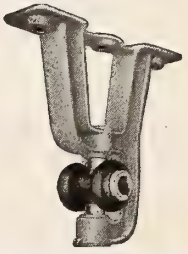


Send for Catalogue No. 3-A and proof of our claims.

The Chapman Double Ball Bearing Co., Ltd.

339-351 Sorauren Ave. - - - TORONTO, Ontario
705 Shaughnessy Bldg. - - - MONTREAL, Quebec

The Transmission Ball Bearing Co., Inc.
BUFFALO, N.Y.



Dominion Copper Products Company, Limited

Manufacturers of

COPPER AND BRASS

Seamless Tubes, Sheets and Strips in all Commercial Sizes

Office and Works: LACHINE, Que., Canada

P.O. Address: MONTREAL, Que. Cable Address: "Domcopper."

MACDONALD'S
"The Tobacco with a heart"
CANADA'S FAVORITE PLUG TOBACCOS FOR OVER 60 YEARS
W. C. Macdonald, Reg'd
Incorporated
MONTREAL - CANADA

Better Lubrication
For Factory Engines
Here is Scientific Refining combined with Scientific Distribution—
Maple Leaf Valve Oil
mixed with the steam and spread in an even, thin *efficient* film in valve and cylinder by the En-ar-co Atomizer.
A guaranteed saving of from twenty-five to fifty per cent in cylinder oil consumption results from the use of Maple Leaf Valve Oil.
That's economical as well as better lubrication.
And the Atomizer is FREE. Write to us.
Canadian Oil Companies, Limited
1296 Excelsior Life Bldg., Toronto, Ont. 141A

passing along a counter on which the food is displayed and choose whatever they desire.

2. It was decided that facilities, to start with, for about 600 people in one sitting should be provided.

3. It was decided to erect a new building with a view to finally accommodating about 900 people and having kitchen facilities to prepare 1,500 meals at one time. (This number could be doubled in two sittings.)

These basic data once settled, the preparation of technical specifications was taken in hand. On the face, the further elaboration of the project seemed to be very simple. It concerns an activity known and followed up in every household daily, wherever meals are prepared and served, but if the condition is added that a large number of men have to be provided with food inside of the very short time available during the noon interval, the whole matter loses the aspect of a primitive undertaking and assumes the character of a manufacturing problem, and as such it has been treated by us.

In the first place, it was necessary to secure a permit for the erection of the new building from the War Industries Board at Washington. This permit was issued in a surprisingly short time, passing all the official bureaus in Washington and Philadelphia in less than one week, which again shows what the Government thought of the necessity of such institutions, especially when compared with another simultaneous application for permit for an urgently needed construction in our steel works, which we had pending for nearly six weeks and finally refused, notwithstanding that the steel works had at least 80 per cent war orders on hand.

However, the War Industries Board made it a condition that no steel for either roof or sash should be used in the building, which in turn, in addition to the existing city building laws, at once determined the type of construction as a slow-burning mill construction with concrete foundations, brick walls, tar and slag roof, wooden sash and concrete floor.

The Design Adopted

The floor plan of the cafeteria and kitchen embodies the finally adopted design which is the result of a careful investigation and comparison of numerous layouts of existing cafeterias from which it was endeavored to incorporate in our plan the most desirable features.

Using the basic data mentioned before, preliminary layouts showed that the building had to be 60 x 160 feet with a lean-to of 60 x 80 feet, altogether 14,400 square feet, and an economical construction under the prevailing conditions has been achieved by using the No. 1 and No. 2 of the Austin Company standards, who were awarded the contract. In this type the span of the main building is divided into three equal sections with about 20 foot centres, resulting in a double row of columns in the main dining-room. Posts 12 x 12 and beams 10 x 14 have been used throughout the entire construction.

The main dining-room has a monitor over the centre 80 feet long and 16 feet wide with 100 per cent ventilated mechanically operated 6 feet high bottom-hinged monitor windows. The height of the main dining-room is 16 feet from the floor to the roof sheathings.

The middle part of the kitchen lean-to is 40 feet wide and 24 feet 5 inches high and has two wings 20 feet wide and 16 feet high and is lighted and ventilated from above with monitor windows similar to the one in the main dining-room.

The southern wing, which is used as private cafeteria and private dining-room, covers a space of 20 x 80, or 1,600 square feet.

The northern wing contains store-rooms and the dish-washing department.

On account of the demands made upon us we were obliged to erect an addition to Plant No. 3, devoted exclusively to the manufacture of

MORROW TWIST DRILLS

The new addition is an ***up-to-the-minute***—3 story—real daylight—reinforced concrete building, where a large force of expert Canadian workmen produce ***FOR YOU*** the famous ***MORROW*** Twist Drills and Reamers. Each tool unconditionally guaranteed. We can now ship promptly.

John Morrow Screw & Nut Co., Limited

INGERSOLL - - CANADA

THE PAIL THAT PROTECTS



If you're looking for perfect Fire Protection for your plant

The Eddy Fire Pail

is what you need.

Made of our famous Indurated Fibreware, moulded all in one piece. There are no hoops to fall off nor wires to slacken.

It can't shrink nor warp nor leak. Acids won't hurt it.

It MUST be on its hook or in its rack—it won't stand alone—where you expect to find it when you want it in a hurry.

Made in Hull—where Eddy's Matches are made

The E. B. Eddy Co. Limited

HULL - - - CANADA

ESTABLISHED 1850

DID YOU EVER NOTICE

that jarring, grinding noise in your machine shop caused by the metal gears?

Wouldn't you like to stop that noise? You can do it by using

NEW PROCESS GEARS
RAWHIDE PINIONS

They last indefinitely too

Ask us about it?

R. GARDNER & SON, LIMITED
Nazareth, Brennan and Dalhousie Streets
MONTREAL

MALLEABLE IRON
CASTINGS

HIGH TENSILE STRENGTH

GALT MALLEABLE IRON CO.
LIMITED
GALT ONTARIO

At the western end of the lean-to a mezzanine floor has been erected, used for three independent toilets for the help, with washstands and lockers.

Large windows 14 feet 7 inches wide and 11 feet 5 inches high are provided with double hang sashes covering about 60 per cent of the wall surface with glass.

The kitchen is equipped with all modern labor-saving and sanitary equipments used at the present, and the location of the various departments has been fixed in such a way that the food and provisions follow the shortest possible route from the storeroom, through the preparing departments to the serving counters.

Refrigeration System

A three-compartment refrigerator has been provided in the back of the kitchen—the largest compartment, 8'x8'x11', for meat, and the other two, 6'x8'x11', for dairy products and vegetables. These rooms are cooled by an electrically-driven ice machine. The ice machine is of four-tons capacity "Arctic" and is automatically regulated (Winkler System) assuring uniform temperature in the refrigerator and doing away with the necessity of a special attendant to the ice machine. The machine is started and stopped automatically, controlled by a thermostat placed in the refrigerator.

The refrigerator has the cooling coils placed in overhead bunkers which latter can also be used for ice cooling in case a breakdown of the machine should occur.

Additionally to the cooling rooms, we have provided an ice-making equipment of 600 lbs. capacity per 24 hours. The tank is placed near the refrigerator in order to use the overhead bunkers of the latter as ice storage.

From the refrigerator the meat goes into the opposite butcher room, equipped with an electrically driven Smith meat chopper and an electrically driven Coles meat grinder, and from thence to the adjoining ranges.

Similarly, vegetables from the storeroom are transferred to the vegetable scullery, where an electrically driven Sterling vegetable cleaner is installed, and cooked in an adjoining Morandi-Proctor three-compartment steamer, and V. Clad steam jacketed stock kettles of 40 and 50-gallon capacity.

"Garland" gas ranges have been provided in order to assure cleanliness and do away with the necessity of bringing in coal and removing ashes. In front of the ranges are metal cooks' tables and a large Bain Marie, accessible from both sides, from which rubber-tired trucks on ball-bearings carry cooked food to the serving counters. In this way a consistently short, straight line of motion of the food is maintained from the storeroom to the serving counters.

The pastry bakery, on the south side of the kitchen, is equipped with a Blodgett gas back oven and steam-jacketed copper kettle. The fillings for the pies, as well as the preparing of the dough is done in an electrically driven Day mixer, which also serves as a potato masher, egg beater, and for other various services of the main kitchen and pastry bakery.

A sufficient number of dressing tables are provided inside of the kitchen for the preparation of sandwiches, salads, etc., which are transferred on special trucks to the serving counter. Cutting of meat is done on a U. S. slicer, which in-

CANADIAN COLLAPSIBLE TUBE CO., Limited
MANUFACTURERS OF
" Premier " Pure Tin, Plain and Decorated Collapsible Tubes
221 RICHMOND ST. WEST - - - TORONTO



XXX GENUINE ARCTIC METAL



IS

The Best Babbitt Manufactured

FOR

Bearings that carry extraordinary heavy loads

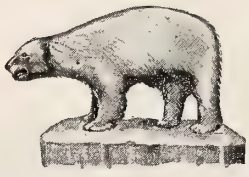
SPECIALLY ADAPTED FOR

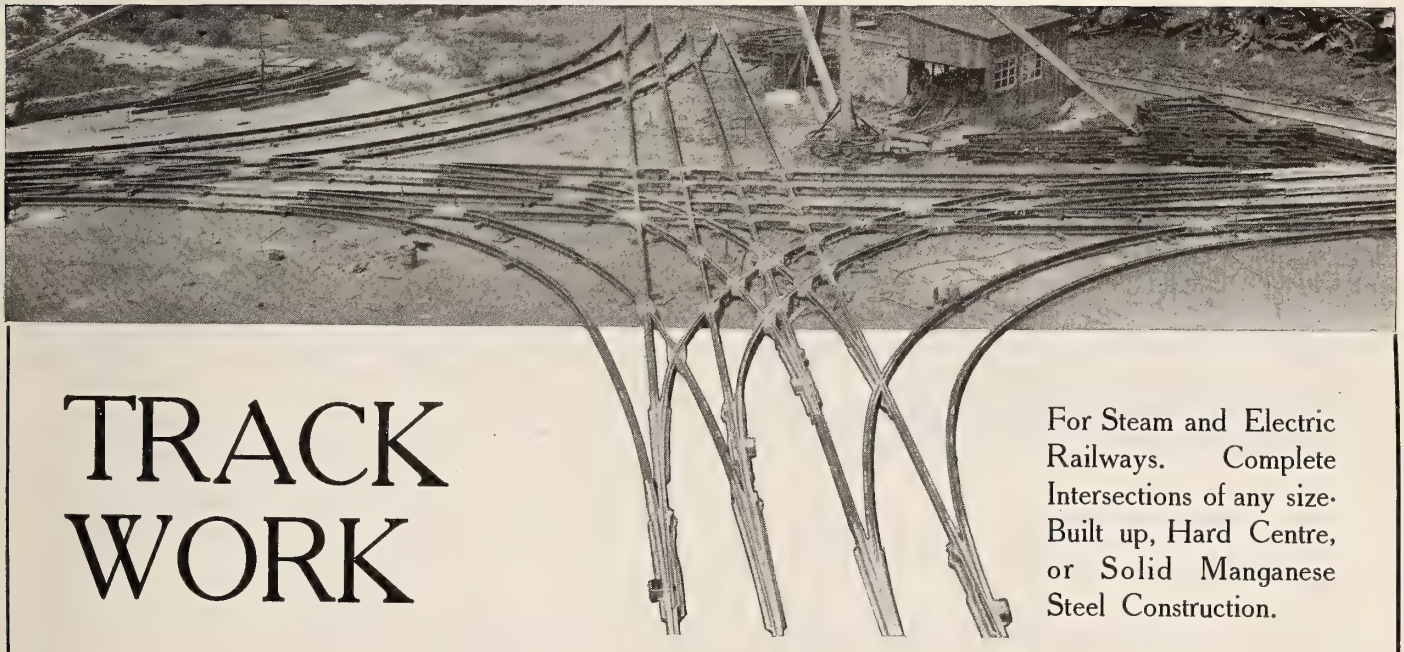
Marine and Automobile Engines

Always runs cool



Tallman Brass & Metal Limited
HAMILTON, ONT.





TRACK WORK

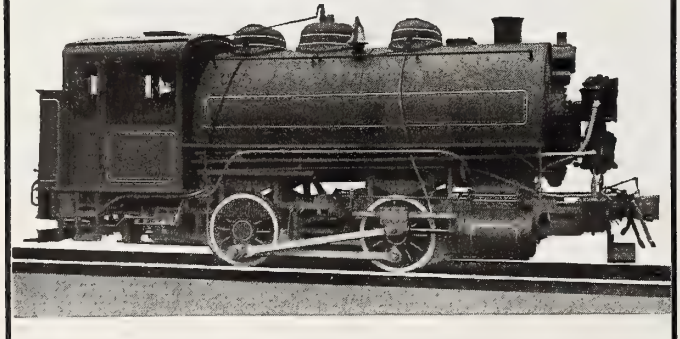
For Steam and Electric Railways. Complete Intersections of any size. Built up, Hard Centre, or Solid Manganese Steel Construction.

CANADIAN STEEL FOUNDRIES, LIMITED

TRANSPORTATION BUILDING, MONTREAL



PUT YOUR PROBLEM UP TO US



We are specialists in building locomotives. We build all types and sizes, also all kinds of repair parts for locomotives and tenders.

Our experience puts us in a position to give you expert advice as to what particular type and size of locomotive is best suited to your needs.

Put your locomotive problem up to us.

MONTREAL LOCOMOTIVE WORKS, LIMITED
DOMINION EXPRESS BUILDING MONTREAL, CANADA

sures uniformity of the slices, and decreases considerably the labor and waste.

All of the departments are provided with a generous supply of hot and cold water and sinks at convenient points.

The soiled dishes are washed in an electrically operated dishwashing machine of the latest type (Crescent Type EE) capable of washing 5,000 dishes per hour. Dishes are carried to the dish-washing department on special rubber-tired dish trucks.

A separate dish-washing machine is provided for trays and silver, which also can be used in emergencies as a stand-by to the automatic machine.

Ample storeroom is provided for both provisions, utensils and china, and the storerooms are arranged in such a way that the manager of the cafeteria has them continuously under supervision as well as the entrance and exit to the kitchen, from his office seat.

A potato pit, holding about two carloads of potatoes, is provided under the storeroom and has a loading hatch from the outside.

Kitchen Equipment

The kitchen is provided with high pressure (90 and 40 lbs.) and low pressure (5 lbs.) steam; electric service, 110 and 220 volts A.C. 60 cycles, for lighting and power; gas, and water service. A separate mill supply for the sprinkler system will be installed shortly. The steam and electric supply is carried through a tunnel under Wissinoming street from our factory.

Very important to the success of the cafeteria is the proper arrangement of the dining-room. This will be at once apparent if it is considered that there are practically 24 hours available for the preparation of the food in the kitchen, whereas only about 30 minutes for the distribution of same to the men.

Quick service and absence of confusion are the slogans of the proposition.

As stated above, the most advantageous position for the service counter, admitting the shortest line for the food route, was to place it in front of the kitchen and in the centre of the dining-room. The serving counters, so situated, can be arranged in two ways; either parallel to the long side of the building or across same. The second alternative has the following advantages over the first: It gives a straight run for the food trucks from the kitchen. It allows more space alongside of the building for the waiting line of men and it quite considerably reduces the number of help necessary inside of the service counter, especially after the first rush is over, when both sides can be operated with reduced number of help for both counters. Also, it allows for a single coffee service and a single cash register service after the rush is over. These advantages have decided us to adopt this latter method.

Some Helpful Features

As seen on the plan, the service counter has all steam tables with dish warmers doubled on both sides in order to dispatch the service. The trays and silver are replenished through windows in the walls of the kitchen, which is a helpful feature during the rush period.

Articles like ice cream, milk, cigars, candy and other refreshments which are liable to be taken by the men and women independently, are dispensed over a special counter near the exits. In such a way the main service counter is relieved.

Another question of importance was to decide the method of paying for the food and, after careful investigation, it was

Every Member of Our Organization is an Active Worker, co-operating to produce Results

Results mean Satisfied Owners

JOHN V. GRAY CONSTRUCTION CO., LTD.
GENERAL CONTRACTORS
625 Confederation Life Building - - - - TORONTO, ONT

ARE YOUR STEAM PIPES INSULATED?

IF NOT YOU ARE BURNING MONEY

A GOOD COVERING pays for itself in one Season, and is a revenue producer indefinitely. The Best is the Cheapest **WE HAVE IT**

EUREKA MINERAL WOOL & ASBESTOS COMPANY
118 ADELAIDE STREET WEST, TORONTO, ONTARIO

JULIUS COHEN & JOSEPHY

Foreign Domestic **WOOL** *Noils, Wastes and Shoddy*

Also operating THE YORKSHIRE WOOL STOCK MILLS, ALMONTE, ONT.
Manufacturers of Pulled and Carded Shoddies

H. V. ANDREWS Canadian Representative **13 Church St., Toronto**

ELECTRIC STEEL CASTINGS

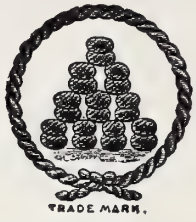
WE CAN SUPPLY

Carbon Manganese, Alloy, Steel Castings Forging Ingots, Etc.

Write for prices and particulars

The Electric Steel and Metals Company, Limited
WELLAND, ONTARIO

Shurly & Derrett
Limited
TORONTO



Manufacturers of
TWINES
of all kinds



"DOMINION"
COTTON AND WOOL WASTE AND COTTON WIPERS, WASHED AND STERILIZED

A WASTE FOR EVERY USE

6 Grades White Cotton Wiping Waste
5 Grades Colored Cotton Wiping Waste
4 Grades Wool Packing Waste
3 Grades Cotton Wipers, Washed and Sterilized

Samples with Prices on Request

Scythes & Company Limited
Montreal TORONTO Winnipeg

found that the best way is to have a sufficient number of cashiers, patrons to pay as they leave the service counter.

The other possibility, of using checks, received at the service counter and paid at the exits, has disadvantages in our case, as it would necessitate a special kind of checks for the men who buy only at the cigar and ice cream counter, and consequently impair the control.

A further problem was to determine whether chairs, stools or benches were to be used. The stools proved the most advantageous, as they once for all fix the space which the patron can occupy; also take up the least room and do not obstruct the aisles.

To facilitate the service the patrons are required to place their soiled dishes and trays on special trucks conveniently located. These trucks, when filled to capacity, are wheeled to the dishwashing department by the help.

A description of the cafeteria will not be complete if the means and provisions for proper health and sanitation are not mentioned. An industrial restaurant which has to dispense a limited choice of food to a very large number of men must be so arranged that there is a practical certainty that conditions detrimental to health do not occur and that the food be served clean and attractively.

With this object in view, we have provided all practical means to assure sanitation and cleanliness of the restaurant.

The ventilation of both the dining-rooms and kitchen is taken care of by large monitors, 100 per cent. ventilated; also two-thirds of the glass surface of the windows is ventilated. The windows reach up to the ceiling and so eliminate impure air pockets.

A generous net of drainage has been provided, with vents and grease traps where necessary, and the concrete floor will be flushed with water at frequent intervals. A sanitary cove is provided around the walls. All counters are raised 6" above the floor to insure ventilation and easy cleaning, and the walls have been painted with water-proof oil paint, to be flushed at the same time as the floors. The interior is painted with mill white, with dark green wainscoting.

The toilets, lockers and wash facilities are provided in a mezzanine floor, western end of building, away from kitchen.

The drinking water is cooled by the ice machine and dispensed through an improved type of bubbling fountains which have a protected nozzle and an inclined flow of water. Recent bacteriological investigations at the University of Minnesota have shown that the generally used bubbling fountains with vertical water streams are unhygienic and direct propagators of diseases.

Identical principles have prevailed in construction and equipment of the small private cafeteria.

Electrical Precipitation

A booklet illustrating their apparatus for the suppression of dust and fumes and the recovery of waste materials in the operation of many industrial enterprises has been issued by the Canadian Westinghouse Company, Limited. The method adopted is electrical precipitation. This process is now being used successfully in lead and copper smelters to reduce metal losses from the stacks and to eliminate smoke nuisances; in cement plants to collect potash and cement dust; in acid plants to recover acid fumes; and in rock crushers to suppress the dust nuisance. It is also being applied to iron blast furnaces to eliminate the ore dust and to recover potash values; to gas plants for removing the dust, tar and lamp black from the gases; to locomotive roundhouses and power plants, located in centres of population, to remove the soot and cinders from the smoke; and to industrial processes producing fine powders as in the manufacture of lamp black, zinc oxide, desiccated foods, etc. The booklet describes the process in detail and gives a large number of illustrations.

THE NICHOLS CHEMICAL COMPANY, LIMITED

MANUFACTURING CHEMISTS

HEAD OFFICE: 222 ST. JAMES STREET, MONTREAL

Branch Office—120 Mill Street, Toronto

WORKS: Capelton, Que., Sulphide, Ont., Barnet, B.C. WAREHOUSES: Montreal, Toronto

Sulphuric Acid	Sulphate Soda	Glauber's Salt	Bleaching Powder
Muriatic Acid	Sulphide Soda	Blue Vitriol	Tri-Sodium Phosphate
Nitric Acid	Hypo-Sulphite Soda	Sulphate Alumina	Ammonia
Hydrofluoric Acid	Bi-Sulphite Soda	Papermaker's Alum	Salt Cake
Mixed Acid	Phosphate Soda	Caustic Soda	Tin Crystals

Agents for Baker & Adamson's Chemically Pure Acids and Chemicals

AGENTS FOR CANADIAN SALT CO.—"WINDSOR" BRAND CAUSTIC SODA & BLEACHING POWDER

Northern Aluminum Company
Limited

Sales Office: 1305 Bank of Hamilton Bldg., Toronto

Works:
Shawinigan Falls, P.Q. Toronto, Ontario

ALUMINUM

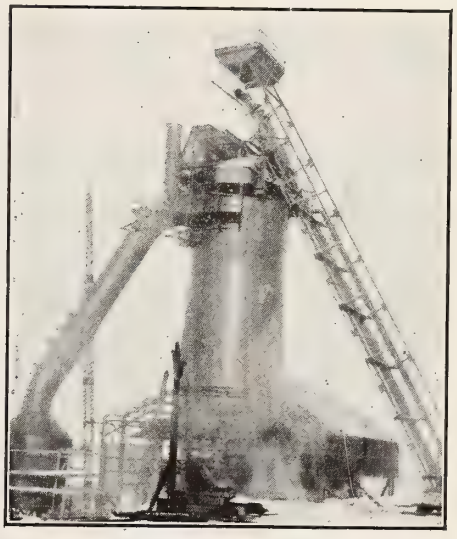
Electrical Conductors
Sheet Ingot
Castings Rod
Tubing Special Shapes
Fabricated Articles

Send inquiries to
1305 BANK OF HAMILTON BUILDING
TORONTO

Structural Steel and Plate Work

FOR

Steel Plants, Ore and Coal Mines and Quarries



Blast Furnaces and Stoves
Gas Producer Shells and Mains
Shipping Piers and Chutes
Buggies and Cages
Conveyors and Storage Bins
Transmission Towers
Smoke Stacks
Air Receivers
Tanks and Bins
Elevator Buckets and Chutes
Riveted Pipe and Penstocks
Water Towers and Tanks

THE MARITIME BRIDGE COMPANY, Limited
New Glasgow, Nova Scotia

SMALL GREY IRON CASTINGS

BY SPECIAL PROCESS

Giving a Smooth, High-grade Casting for Enameling and Nickel Plating

Rubber Manufacturer's Equipment, Cast and Machined

CANADIAN-RUMELY CO., Limited
48 Abell Street - Toronto, Ont.

LUGS FOR BANDS

On Silos, Tanks, Water Pipes, Penstocks
Ovens, Pottery Kilns, etc.



Ask for Price List

For round Rods ⅝ to 1½ inch Flat Bands 2 to 6 inches wide

Best Malleable Iron—Prompt Shipments.

OTTERVILLE MFG. CO., LIMITED
OTTERVILLE, ONT.

Made in Canada



From British Stock

"GENUINE OAK"

LEATHER BELTING

"D.K."

BALATA BELTING

Guaranteed to Give Satisfaction

D. K. McLAREN LIMITED

TORONTO MONTREAL ST. JOHN, N.B.
849 Beatty Street, VANCOUVER

LEATHER BELTING

Made in Canada

J. L. Goodhue & Co., Limited
DANVILLE, QUEBEC

Manufacturers of
SUPERIOR QUALITY LEATHER BELTING AND LACE LEATHER

QUALITY
Not Price Our Aim

Canadian Manufacturers SHOULD USE Canadian Belting

Winnipeg Agents:
BISSETT & WEBB, Limited
116 Lombard St.
Winnipeg, Man.

Vancouver Agents:
FLECK BROS., Limited
54 Cordova Street East
Vancouver, B.C.

Montreal Agents
STANDARD MACHINERY & SUPPLIES, Ltd.
260 ST. JAMES ST., MONTREAL

WHAT FRANCE NEEDS TO-DAY

Seven million tons of metals are required for the work of reconstruction, including 1,500,000 tons of iron and steel, 80,000 tons of copper, 40,000 tons of lead, and 90,000 tons of raw cotton for textile plants.

(From the "American Machinist.")

Speaking before a gathering of American business men, Lieut. Raymond d'Aiguy, of the French High Commission to the United States, gave the following information about France's needs and the way to fill them. Said Lieut. d'Aiguy: "The greatest need in France at the present time is food and agricultural implements, and she is looking to America for both of these. The import duty on agricultural implements has been temporarily suspended as an inducement for American manufacturers to ship their products to France. During the war France lost 300,000 agricultural implements.

The speaker sketched quickly and precisely the far-reaching effect of German destruction in France. According to figures he quoted, the destruction includes 27,000 factories, representing an investment of $5,000,000; 440,000 homes, 3,000 miles of railway-track, 1,000 bridges, and 400 tunnels.

To aid in the reconstruction of these, France will have to import quickly 7,000,000 tons of metals. The requirements for the next year are estimated at 1,500,000 tons of iron and steel, 80,000 tons of copper, 40,000 tons of lead, and 90,000 tons of raw cotton for textile-plants.

"France looks to America to help in the reorganization of her industrial life," said Lieutenant d'Aiguy. "We need American engineers to help reconstruct our plants and American business experts to help us reorganize French business. I believe that France will become more of a modern machine-using nation than before the war. America can help in showing French business men the advantages of machine production.

"France is suffering from a shortage of machine tools now, but in order to assure a certain amount of profit for France in any importations, they must be bought through a special government body, which exacts a 16 per cent. profit for France as well as an extra 2 per cent. for the upkeep of this special organization.

"Above all things, France needs ships, and we hope to be able to place orders in American shipyards for about 1,000,000 gross tons of shipping.

"France is not bankrupt, but she has lost much through the war. In making our purchases in America we will be able to pay for about half of the merchandise we buy. American business men will have to extend us credit for the other half.

"American business men who want to do business in France should conduct negotiations through a Frenchman of a French firm,' Lieutenant d'Aiguy insisted. "The French and American people are not at all alike. It takes a Frenchman to understand his own people."

Arthur J. Hayes, former sales manager of the Ford Motor Co., of London, Ont., has resigned to go to Windsor, where he becomes sales manager of the Champion Spark Plug Co. of Canada, Limited. Prior to taking up his new duties, Mr. Hayes spent a few weeks travelling about Canada, getting acquainted with the jobbing trade and familiarizing himself with the sales policy of the company. He will make his headquarters at Windsor, where a new quarter of a million dollar plant is being erected by the Champion Spark Plug concern.



Cut of 60-inch "Extra" Double Belt
Made by The J. C. McLaren Belting Co., Limited.

WE ARE HEADQUARTERS FOR ALL KINDS OF

BELTING
LACE LEATHER
CARD CLOTHING
REEDS AND
GENERAL
MILL SUPPLIES

ABSOLUTE SATISFACTION GUARANTEED

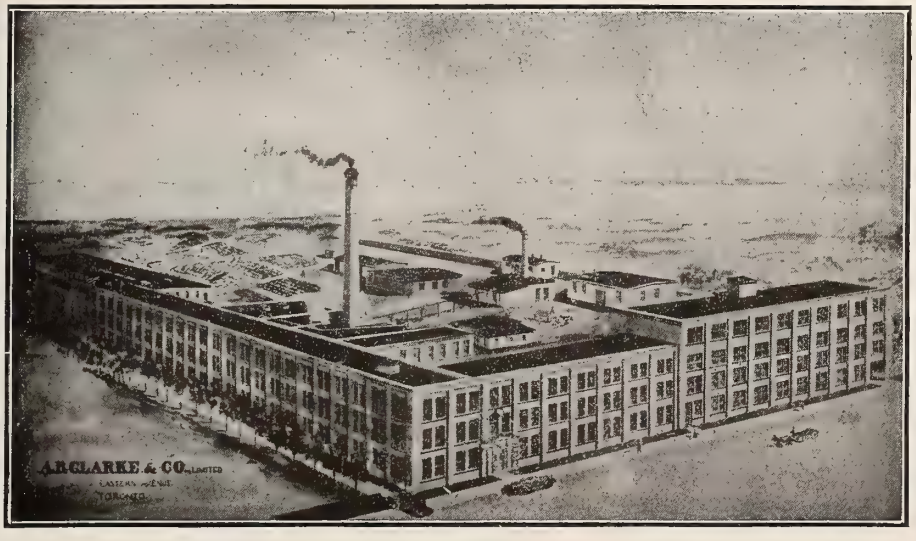
The J. C. McLaren Belting Co., Limited

ESTABLISHED 1856

Head Office and Factory
MONTREAL, Que.

Branches:
50 COLBORNE ST., TORONTO
80 LOMBARD ST., WINNIPEG

633-661
EASTERN
AVENUE



ESTABLISHED 1852

The Largest Patent Leather Manufacturers in the British Empire

A. R. CLARKE & CO., LIMITED

MONTREAL TORONTO QUEBEC



With our greatly increased capacity we need your business.

A wheel for every purpose and satisfaction guaranteed.

Let us send our new Catalog and quote prices.

Dominion Abrasive Wheel Co., Ltd.

MIMICO. ONTARIO, CANADA.

DU PONT CANADIAN INDUSTRIES

LUXAR

THE TOP MATERIAL WITHOUT A PEER

Rain beats against it in vain. Sleet congeals on it without leaving a trace. The sizzling sun of summer has no effect on LUXAR. It lasts indefinitely without showing any wear or deterioration.

LUXAR is the material without a peer. It is rubber-coated, made in both single and double texture—proof against wear and all the elements.

So when your customers ask you, "What material would you recommend for my car-top? you can answer with confidence, LUXAR."

Du Pont Fabrikoid Company

Sales Office:

63 Bay St. TORONTO

DU PONT

THE INDUSTRIAL AWAKENING OF P.E.I.

Rural depopulation is the worst menace to Prince Edward Island's prosperity and, to offset it, the introduction of industries is advocated. An Industrial Promotion Committee has been formed and investigation is being made of possible industrial development. At present the island has practically no manufacturing industries but it has plenty of raw material.

(From the Montreal "Journal of Commerce.")

According to the last census the population of Prince Edward Island decreased by 15,000 during the previous decade, and we had fewer people then than at Confederation. The great problem is how are we to keep our people at home and save a further loss in population. Agriculture is the chief industry of the island, employing about 85 per cent. of our people. Take a case of the owner of an average-sized farm. If he has a number of sons, only one of these, or perhaps two, can earn a livelihood on it. The others must seek employment in other callings, usually outside the province. Even the farmer, attracted by the lure of the West, sells out and moves away.

Efforts have been made to develop intensive farming through dairying, fruit-growing, etc., and thus increase the sources of employment and maintain at least our population, but the results have not been so satisfactory as desired. Dairying has made good progress, and according to the reports submitted at the annual meeting of the Provincial Association this winter the value of the output was the greatest on record owing to the high prices; but the supply of milk had decreased, and there was a cry of shortage of farm labor. The fishing has been holding its own well, but the lobster catch shows signs of declining, and unless other branches of this industry are more vigorously prosecuted, such as cod-fishing, which is capable of much greater development, there will naturally be a falling off in the number of people engaged in this industry. Fur farming, though hard hit by the war, has passed the feverish speculative stage, and is settling down to a sound business basis, and this will hold a certain number of our population.

Great Need is New Industries

The great need of the province is the introduction of new industries as well as the further development of the existing ones, and a move is now on tending to secure the greatly-to-be-desired indoor industries, such as factories.

Whilst the island is enjoying a good share of prosperity, and agriculture and fishing have proved valuable sources of wealth, our progress has been one-sided from an industrial standpoint. There are a number of anomalies in the situation. For instance, we export about 30,000 raw hides per year, and these are sent abroad to be manufactured into boots and shoes, and to be sold on the island. Eighteen or twenty years ago we had several tanneries operating successfully, but they have all closed down but one, and that one is on the verge of disappearance. Hence tanneries and boot and shoe factories should, in the natural order of things, be established here. There is not now a single one of the last-named factories in operation, although one is proposed to be started here on a small scale.

Import Almost Everything

The island is a regular Mecca for commercial travellers, as we import almost everything in the line of manufactured goods. The manufacture of carriages, furniture, woollen goods and other lines at one time flourished, but one by one they faded away. With the view of recovering at least in a measure some of our lost ground, an organization known as the Industrial Promotion Committee has been found in Charlottetown. Its membership includes the Council of the Board of Trade, the City Council, the Rotary Club, the Retail Merchants' Association, and the Great War Veterans' Association. There are a number of sub-committees, including the Investigation Committee, whose duty is to investigate

HEAVY CHEMICALS AND DYESTUFFS

The Grasselli Chemical Co.

LIMITED

Manufacturing Chemists

Toronto, Ontario

Branch Office: MONTREAL, QUE. Works: HAMILTON, ONT

H. & D. Corrugated and Solid Fibre Board



CONTAINERS will save on your transportation charges, save your floor space, cut down packing expenses, and give you positive protection against loss from damage and pilfering. Write for prices and samples.

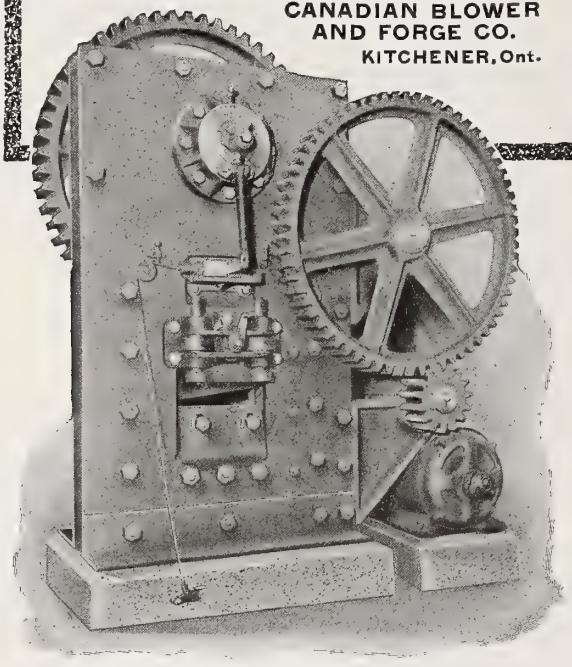
The Hinde & Dauch Paper Co. of Canada, Limited, Toronto, Canada

CANADIAN ARMOR PLATE

PUNCHES, SLITTING SHEARS, and BAR CUTTERS are dependable. They are built of "Armor Plate" Steel—tensile strength 75,000 lbs. per square inch—7½ times as strong as cast iron.

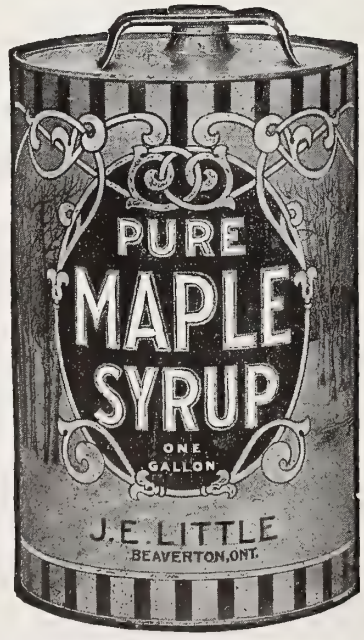
That means a lighter and stronger machine—a machine built to take a lot of punishment. *Write for Catalogue P/S-51.*

CANADIAN BLOWER AND FORGE CO.
KITCHENER, Ont.



SYRUP CANS

LITHOGRAPHED AND PLAIN



Write for Circular and Price List

MACDONALD MFG. CO., Ltd.
145 Spadina Avenue
TORONTO - - CANADA

and report on existing industries, and the prospects for new enterprises; and a Recommendation Committee, that will receive in confidence the financial report of any enterprise wishing to extend its field of operation or any new industry, and make recommendation as to the proper method of procedure. The Publicity Committee is planning an advertising campaign, and recently conducted a competition in which prizes were awarded for the best articles on the securing of new industries. Although the movement is in its initial stage, good progress has been reported. One firm of machinists and founders, who make a specialty of gasoline engines, propose enlarging their premises, and are preparing to issue additional stock. The prospective establishment of several new industries is announced. The large sums which were taken out of the Savings Banks and invested in the fox industry and the several Victory Loans indicate that there is a large amount of capital which only requires the proper inducement to have loosened up and placed in circulation, and the aim is now to develop a confidence among our own people in home industry.

Manufacturing Conditions Favorable

There are many favorable conditions for manufacturing here. Formerly the island was handicapped by inadequate transportation facilities, especially in winter, but the arrival of the car ferry and the widening of the railway gauge which is now under way will make us virtually a part of the mainland. Although we have no coal, Ontario and Quebec are also without it, and we are within easy reach of the mines of Pictou County and Sydney, so that it can be landed here just as cheaply as in St. John. The island is thickly settled with a well-to-do people, whose wants at present are almost wholly supplied from abroad. Building sites can be had reasonably, and the cost of living will be no higher than in other provinces, whilst the rate of taxation is the lowest of any part of Canada. Quite a flood of suggestions has been placed before the Promotion Committee; for example, making of certain lines of agricultural implements is advocated, the building and starting of woollen mills (already we have a knitting factory in successful operation), the utilization of fish offal for fertilizer, the canning of fruits and vegetables, the bottling of pickles, the manufacture of soap, the building of boats, and making of motors and aeroplanes and other lines. For some years the beet sugar industry was insistently advocated. The scheme finally dropped, but an agitation is on foot to have it revived.

Much emphasis is being laid upon the possibilities of developing industries which are in line with our natural resources. For example, the manufacture of potato starch, which has been carried on for a number of years, might be supplemented with the making of potato flour, dextrine glucose and denatured alcohol. A condensed milk factory has been running for quite a number of years, and the making of powdered milk might be introduced also.

An organization known as the Development Commission, which received support from the Government, undertook some years ago to do work along somewhat similar lines as the Promotion Committee, and it secured considerable amount of data, which can be made use of by the latter organization. The Commission, however, became inactive when the war broke out, but now that conditions are becoming normal again it is hoped that the organization may be revived. The manufacture of bricks and tiles for under-drainage resulted from the efforts of that committee, and it was also found that the island has a large supply of sand suitable for glass making. Other hitherto unknown resources of possible development were revealed, but now that the industrial movement is being revived some practical results may follow the efforts which were previously put forth.

The need of providing employment for the returned soldiers has tended to quicken the interest in the industrial movement, and, with the various forces working together, it is expected that something tangible will result.

DOMINION BRIDGE CO., LIMITED

MONTREAL, P.Q.

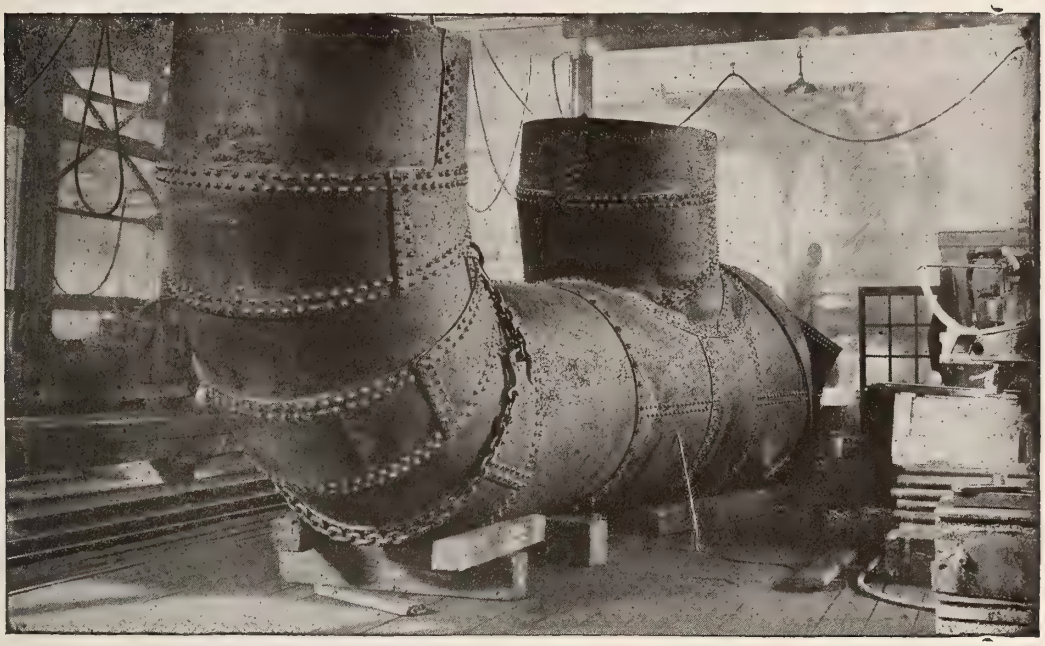
Engineers, Manufacturers and Erectors of

Paper Making Machinery

Steel Structures

Railway and Highway Bridges

Electric and Hand Power Travelling Cranes



Penstocks

Tank and Plate Work

Marine Engines and Boilers

Coal and Ore Handling Machinery

Lift Locks and Gates

Head Office and Works: LACHINE, P.Q., CANADA P.O. Address: MONTREAL, P.Q.
Cable Address: DOMINION Branch Office and Works: TORONTO, OTTAWA, WINNIPEG
Sales Offices: MONTREAL, TORONTO, OTTAWA, WINNIPEG, EDMONTON, REGINA, VANCOUVER
LARGE STOCK OF STRUCTURAL MATERIAL AT ALL PLANTS

QUALITY AND SERVICE

Acetic Acid Refined
Acetic Acid Crude
Acetic Anhydride
Acetate of Soda
Acetate of Lime

Acetone Pure
Acetone Alcohol
Acetone Oils
Charcoal
Columnian Spirits
Wood Alcohol

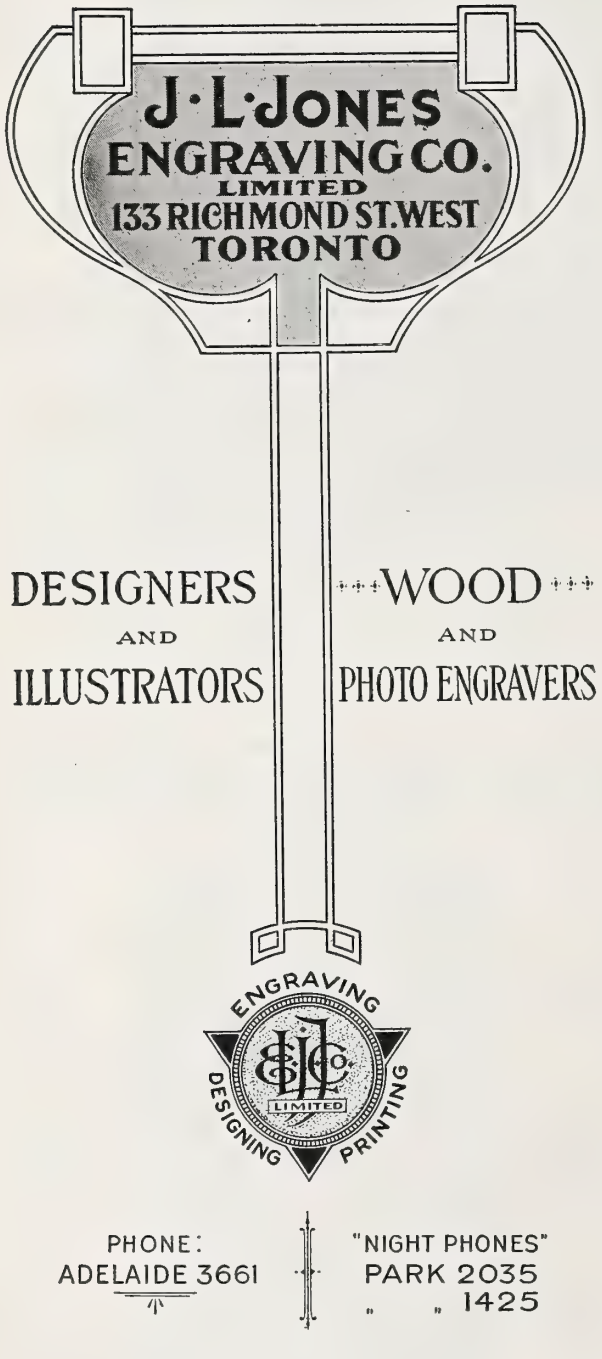
Creosote Oils
Formaldehyde
Methyl Acetate
Methyl Alcohol
Methyl Alcohol Pure

Made in Canada

Standard Chemical, Iron and Lumber Co.

OF CANADA, LIMITED

MONTREAL TORONTO WINNIPEG



GERMANY'S INDUSTRIAL FUTURE

The length of time before Germany can even approach her previous standing is dependent upon many things. There is little doubt, however, but that the German people will exhaust every means and source to re-establish themselves as rapidly as possible. They will doubtless endeavor to regain the respect of the world by new and possibly surprising means.

By Corporal R. D. Zucker.

(From the Journal of "Industrial and Engineering Chemistry.")

Germany's entire industrial position depends largely on her ability to get raw materials. The sources of my information are several, the principal ones being my personal observations of mail censorship reports, of Germany's industrial position, of which I prepared daily summaries for a period of several months, and also my personal observations in various parts of the occupied territory. I have hesitated in making any fast, prophetic statements regarding the future, and have confined myself principally to the various possibilities.

Germany's dependence upon other countries for so much of her raw materials has placed her in a precarious position. She has no important copper, tin or nickel deposits. Whereas before the war she led the world in the production of aluminum, now the United State alone produces over one-half. We and Canada have a natural advantage over her in our large deposits of bauxite. Previously Germany imported vast quantities of it from the Provence district in France. It is doubtful if she will be able to do this in the future, because agitation is already on foot in France for the Government to make stricter export laws on this material. She can obtain lead in fairly large quantities from galena deposits in the Harz mountains, Mechernich and Call, in the Eifel district. Zinc is very plentiful in the Upper Harz, and in Upper Silesia and Aachen. Formerly Sweden exported about three million tons of steel every year to Germany. Naturally this was greatly diminished during the war. Now even the production of Germany's own mines amounts to very little. Cotton, rubber, gums, essential and vegetable oils must also be imported in large quantities. Flax is cultivated to some extent in Germany, but at the present time only about five to six per cent. of the mills of the linen industry are in operation. This year's crop of flax will amount to practically nothing. Seed is difficult to obtain, and the farmers are not planting much because they can see no method of disposal, and in many cases no labor can be had.

Want Raw Materials

I read in one trade journal that, on account of the great oversupply of copper, cotton, rubber, textiles, etc., in the United States, we would be compelled to export them to Germany in order to dispose of them. They evidently expect the exports to commence with the lifting of the blockade, and also look for a big reduction in prices. They particularly mention that they want to import the raw materials and not the manufactured goods. This is so that their idle plants may once again be set in operation and employment given to those out of work.

Transportation difficulties arose from many different sources. The blockade between the occupied and the unoccupied territories, enforced by the Allied armies of occupation, played a big part, especially during the first months of occupation, when it was extremely difficult to obtain permits to export and import necessities, etc., from the left Rhine territory to unoccupied Germany, and *vice versa*. Later on the restrictions on certain raw materials and special classes of goods were made lighter, and it was possible for some plants to keep in operation through these means. For example, at one time a large quantity of raw beet sugar was permitted to be sent from the unoccupied zone to the left Rhine territory, where most of the refineries are located. It was on the

Fellow Manufacturers



We Make in Canada
Lead Pipe
Sheet Lead
Wire Solder
Bar Solder
Ribbon Solder

BABBITT METALS
for all requirements

INGOT METALS
Copper Tin Lead
Aluminum and Brass

EVERYTHING
IN METALS

Wherever you are
we can serve you

The Canada Metal Co. Limited
TORONTO MONTREAL WINNIPEG VANCOUVER

Drill Steel Opportunity

25 Tons 1-⅛" Cruciform
Section Solid Drill Steel

25 Tons 1-¼" Cruciform
Section Solid Drill Steel

Will receive bids on lot or any portion above steel for immediate delivery.

Guaranteed quality.

ARMSTRONG WHITWORTH
OF CANADA LIMITED

Head Office:
298 ST. JAMES STREET
MONTREAL

Works:
LONGUEUIL, Que.

TAR PRODUCTS

Dominion Tar and Chemical Company

TAR DISTILLERIES:

Sault Ste. Marie, Ont. **Sydney, N.S.**

Address all communications to Sales Office,
400 McKinnon Bldg., Toronto, Ont.

Black Varnish
Creosote Oils
Wood Preservative Oils
Hard Coal-Tar Pitch

Naphthalene
Disinfectants
Crude Carbolic Acids

Phenols and Cresols
Paint Naphthas
Crude Naphthas
Shingle Stain Oils

Dull Files Dull Workmen

You cannot get the best out of men working with dull tools.

The personal satisfaction they get out of working with sharp, well-balanced tools makes for contentment.

It is better to throw away a dull file and buy a new one than to "economize" by keeping the dull files in use.

"Famous Five" Files give maximum returns because the steel in them is accurately cut and properly hardened.

Order them. They are:



condition that a certain large per cent. should be kept for distribution in the occupied country. Another factor in the transportation trouble was that of the diminution in the amounts of rolling stock. Owing to the conditions of the armistice, 5,000 locomotives and 150,000 cars had to be turned over to the Allied authorities, and the shortage produced thereby added greatly to the already existent difficulties. It is claimed, however, that after the industrial plants start up again the shortage of locomotives could be alleviated in as short a time as three months by means of spare parts on hand, outstanding contracts, etc. This seems to me a very optimistic statement.

The spread of Bolshevism and Spartacism caused considerable turmoil among the laboring classes. Naturally the leaders of these new parties sought the districts where labor was most concentrated, and therefore the mining regions around the Ruhr River, Upper and Lower Silesia, and other industrial centres suffered the most, thereby further paralyzing the arteries of commerce. The demands for higher wages, better hours and conditions were in some cases just; but the harm done to industry alone by their injudicious methods certainly adds the final touch to their discredit. For many months, in Berlin alone, there have been well over 200,000 unemployed. The Government itself is greatly to blame for this, because, by law, they are compelled to pay those out of work eight marks per day, I believe; and when a man is unable to earn much more than that by working, there is certainly little inducement to make him hunt a job if he can get his living free and by thieving or plundering. A readjustment of these unfavorable conditions can be partially obtained by suppressing the Bolshevist menace by the co-operation of all, and with the course of time. It can be safely said that the majority of the workers are not in favor of the radical methods used, but where intimidated and compelled to adopt them.

Socializing the Industries

Many movements have been on foot for the past months to socialize the different industries. The German Government is making investigations concerning the benefits of it; and some branches of industry, I believe, have already decided to adopt the socialistic administration. Others are putting up a violent opposition to it, so the outcome of it will be interesting to watch. There has been existent in Germany for a long time a type of organization which, until comparatively recently, we have not had to any extent in our own country. Every little branch of industry has its so-called "Verein" or "Verband," which seems to be made up more from the manufacturers themselves than from the laboring classes. They are not similar to our trade unions, but are more along the order of our "chambers of commerce." They aim mainly to standardize commerce regulations, determine prices, establish co-operation with the employees, protest against unfair legislation, and to look out generally for the particular interests of their own branches of industry. They are in a large degree responsible for Germany's previous commercial success. Since the armistice was signed they have also played an important part in endeavoring to keep industry going and in making plans for the future. It might be mentioned here that another feature that played a part in Germany's former success was that of the elimination of "cross shipping," i.e., the shipping of some class of goods from one part of the country to another distant part when it is possible to obtain the same in close proximity. This avoids unnecessary congestion of freight, and affords cheaper prices, quicker delivery, etc. Of course Germany, being of much smaller area than the United States, can more easily practise such a principle; nevertheless, I believe that we should make attempts to eliminate this drawback as much as possible in the United States.

At the present time the immense syndicates and their vast plants are shut down exactly as those of smaller capacity are. Probably among the best generally known is the famous "Kali" syndicate, which controls the potash deposits of the Stassfurt

STEEL BARS

ROUNDS, SQUARES, FLATS, ANGLES AND SPECIAL SECTIONS FOR AGRICULTURAL IMPLEMENTS

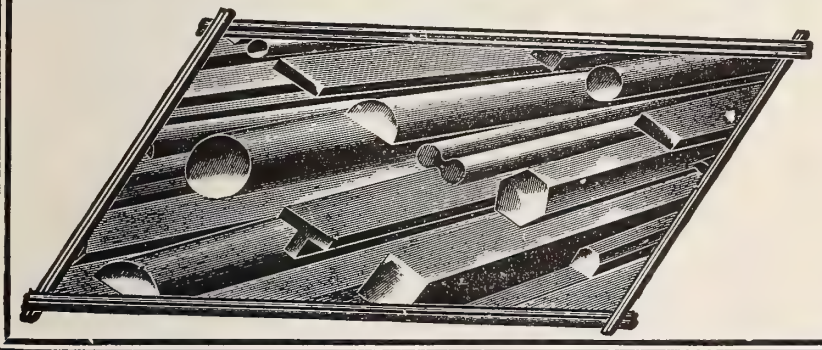
Prompt Shipment from Stock

BURLINGTON STEEL CO., Ltd.

HAMILTON - CANADA

UNION DRAWN STEEL CO., Limited

HAMILTON, ONTARIO



MANUFACTURERS OF

Shafting

Rounds, Flats, Squares and Hexagons

LARGEST STOCK IN CANADA

Get prices before ordering elsewhere.

CANADIAN TUBE & IRON CO., LIMITED

MONTREAL, CANADA

Ask Your Jobber for

WROUGHT PIPE BLACK AND GALVANIZED 1/8 TO 4 INCH

Thoroughly inspected and tested to 600 lbs. pressure and branded

CT Brand

Also BOLTS, NUTS, RIVETS—All Kinds

PRESSED SHIP SPIKES, BLACK AND GALVANIZED—All Sizes

SELLING AGENTS FOR

CANADIAN ROLLING MILLS CO., LIMITED

Bar Iron and Steel

COLONIAL WIRE MFG. CO., LIMITED

Wires, Wire Nails, Wood Screws, etc.

WORKS: LACHINE CANAL MONTREAL, CANADA

MANUFACTURERS OF

STEEL STRUCTURES

OF ALL CLASSES
PARTICULARLY

BUILDINGS
BRIDGES
TANKS

MacKinnon Steel Co., Limited
SHERBROOKE, QUE.

Montreal, Office; 404 New Birks Building



For Full Information Write for Catalog I

Canadian Mathews Gravity Carrier Co., Ltd.
PORT HOPE, ONT.

region. During the first quarter of 1919, on account of coal shortage, transportation troubles and labor difficulties, they were able to deliver only 60,000 tons, compared with 150,000 tons in the same period of 1918. The value of deliveries decreased from 77 million marks to 35 million marks. Now that the United States has become practically independent of large imports of potash, whereas in 1913 it is said that she imported about one million tons of potash salts from Germany, it can be seen that this important branch of Germany's export trade is doomed to suffer. In like manner, through the industrial independence which we have obtained in other lines during the war, especially in medical preparations, dyestuffs, optical glassware, etc., her position is greatly jeopardized. One plant of the Hochst Farbewerke, in French-occupied territory, is now in operation under French supervision. Medicinal products are produced, the stores and production are first used for the purposes of the Allies, and any remainder can be shipped by special permit into the unoccupied territory. Along the Rhine, in the American zone, practically the only factories in operation are those manufacturing "Schwemmstein," a sort of porous concrete building brick made from gravel and clay found in the immediate vicinity. Being on the river, a coal supply is fairly easily obtainable. These plants have been making shipments with fair regularity, especially to Holland, which is also accessible by the water route. It is interesting to note here that after the American army of occupation had been here some time the numbers of unemployed among the Germans in the occupied zone decreased continually until, at the present time, it is very nearly nothing.

Krupp Works Idle

In the hills along the Lahn River, which terminates in French-occupied territory just below the American zone, there are a few silver, lead and iron mines. These have been in operation to some extent, but with no regularity and with only a small production. The great Krupp works at Essen, while having made plans to re-establish themselves on a peace basis, are the present practically idle. It is interesting to note that the Krupp people claim that before the war the proportion of finished war materials (artillery, armor plate, shell cases, etc.) to that of peace materials which they manufactured was only one to twenty. It is not within the scope of this article to argue along these lines, but I have definite proof that the Krupp people cause false statistics to be given to the public, and reserve the correct ones for their own internal administration. The addition that they will soon put on to their 1912 Jubilee Book concerning their experiences, production, etc., during the war will not be the same one that they will distribute to their own officials, and which will contain the true facts, figures, their great errors, etc.

The majority of the plants are in condition to start manufacturing again on short notice if the factors that closed them down are removed, that is, with a regular coal supply, which would, of course, necessitate open lines of transportation, and the labor trouble quieted, Germany will be able to manufacture on a scale in proportion to the supply of her own raw products and the disposal of her goods. Here her total dependence on other countries for such products as rubber, copper, etc., comes into effect. She is also largely dependent upon other countries for the disposal of much of her manufactured goods, and will no doubt make every effort to introduce her wares to the world once again, whether it be by open methods or unscrupulous ones, depending upon whether the former are successful or not. Importers are already sending out

RIDOUT & MAYBEE
Solicitors of Patents
Counsel, Solicitors and Experts in
PATENT SUITS
Agencies in the leading countries of the World.
EDWARD MAYBEE, Mech. Eng. J. F. EDGAR, Counsel
KENT BLDG., YONGE STREET, TORONTO

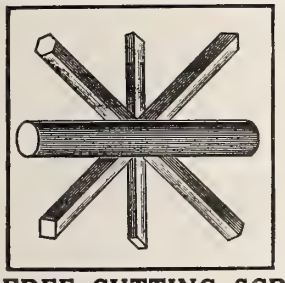


Why import WIRE ROPE when we manufacture your needs?

Ships' Rigging, Hawsers, DREDGE and ELEVATOR ROPES, Etc.

THE DOMINION WIRE ROPE COMPANY, Limited

TORONTO WINNIPEG MONTREAL



COLD DRAWN, TURNED AND POLISHED STEEL

SHAFTING

ROUNDS, SQUARES, HEXAGONS AND FLATS

$\frac{1}{8}$ in. to 6 in. Dia. $\frac{1}{4}$ in. to $2\frac{1}{4}$ in. $\frac{1}{4}$ in. to $2\frac{1}{4}$ in. up to $1\frac{1}{2}$ in. x 3 in.

FREE CUTTING SCREW STOCK PISTON AND PUMP RODS FINISHED KEYS

The CANADIAN DRAWN STEEL CO., Limited

HAMILTON, ONTARIO

THE CANADIAN BRIDGE CO., Limited

WALKERVILLE, ONTARIO

Montreal Office: New Birks Building

MANUFACTURERS

RAILWAY AND HIGHWAY BRIDGES

Locomotive Turn Tables. Roofs, Steel Buildings and Structural Iron Work of all Descriptions

Suppose you employed the entire Fire Department of your city to guard your building day and night

Suppose hundreds of firemen, each with a fire hose, stood ready instantly to drench with water any fire that might start anywhere in your building, there wouldn't be much chance of a serious conflagration in that building, would there?

In effect, that is just the protection afforded your building if it is equipped with Automatic Sprinklers.

It costs you nothing in the end to install Sprinklers. You can actually have the protection of Sprinklers without one cent of expense; for the saving of 40% of your insurance premiums, which they make possible, pays for them in a few years—and after that your insurance savings are clear profit.

Estimates furnished on request

THE BENNETT & WRIGHT CO., Limited

72 QUEEN STREET EAST - TORONTO

smooth business letters, seeking to renew connections and dismiss the "unfortunate occurrences," as they call it, of the past four years. English firms have their representatives in a portion of the occupied territory, where they are aiming to establish business connections. I understand also that a large American exchange company has offices in Berlin, and will handle imports of raw materials and exports of finished products to the States. It is doubtful if the antipathy against Germany will remain strong with many in the commercial world, especially if there is anything to be gained by overlooking it.

The length of time required before Germany can even approach her previous standing is dependent upon many things. If the amount of indemnity that she has to pay should prove to be excessively large, the country would be placed in a condition of economic slavery for many years. If a commercial boycott of any extent should be placed upon her, this will certainly be a tremendous restraint upon her recovery. There is little doubt, however, but what these people will exhaust every means and source to re-establish themselves as rapidly as possible. Being naturally industrious, and making application of science as they have heretofore, they will doubtless endeavor to regain the respect of the world again by new and possibly surprising means, especially if they should be fortunate enough to have the proper kind of leaders to guide them. Plans for the future are already being considered in detail. If attempts to place their goods in the large countries of the world cannot be made directly, they will resort to agencies which they have established in the so-called neutral countries, such as Holland, Switzerland, Sweden, Norway, Denmark, etc. Many firms already have their representatives in these countries, and are making preparations for importing and exporting as soon as the blockade restrictions are lifted.

One thing which Germany fears in a commercial way is the competition of Japan. Since 1913 Japan's exports to Australia alone increased eightfold. There is a bitter feeling against them on account of the strides that Japan has taken in the export of toys, fancy wares, etc., to the United States, South America, Australia and Europe. The fact that Germany, being closely engaged in warfare, gave Japan an excellent opportunity to expand her business connections, now causes Germany to apply the term "yellow peril" to the menace to her toy industries, etc.

A fact which must not be lost sight of in the future is the well-known ease by which a plant manufacturing dyestuffs can be converted, in a very short space of time, into a source for the most powerful explosives that the world knows of. It will be well to watch this formerly highly-developed branch of Germany's industry, and not allow it to reach too extensive proportions.

It is perfectly possible, although perhaps difficult for some to understand, for Germany to rebuild herself and become once more a nation of commercial importance and holding the recognition of the great nations of the world. It will take many years and an entirely different type of leaders from what she formerly had, and at the present time it does not appear as if her new leaders had lost sight of their old ideas of world domination in the future. So far as the United States is concerned, we have been very magnanimous to her on the whole, which is entirely in keeping with the principles for which we fought. If Germany, in her strides for recovery, shows herself worthy, I believe it would still be in accordance with our principles to assist her in certain ways; but if, on the contrary, she should show any intent of pursuing her old designs, forces to prevent it cannot be taken too soon. Present internal indications in Germany certainly indicate that she is anxious to re-establish her business connections, start up the factories, feed her people and put herself on a firm basis. Germany's future rests wholly with herself, and, by watching her carefully, the rest of the world will be able to determine what new means to adopt towards her judicially, commercially and, if necessary, physically.

Canadian

Even Poor Coal

With Turbo Conoidal Fans you can use a much lower grade of fuel than is possible with a stack.

Your air supply and pressure are under perfect control and always just right for light or heavy loads.

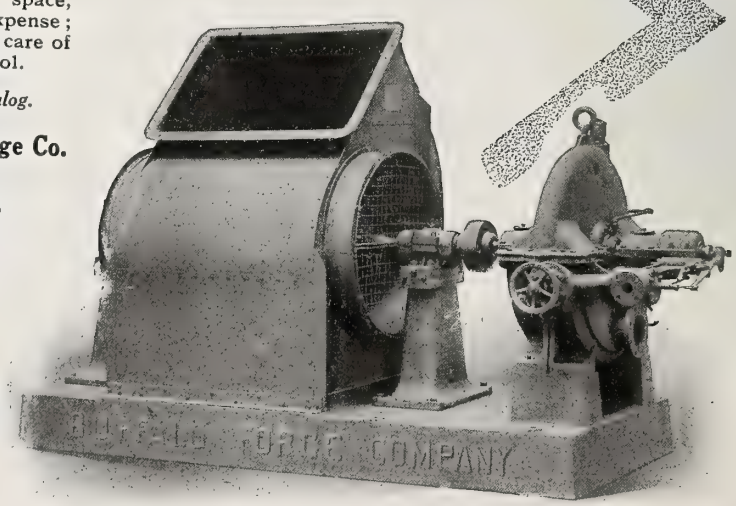
A stack is inflexible, awkward and expensive. It can never be enlarged to take care of *increased* additions to the plant. There is no control.

Turbo Conoidals occupy small space, require little upkeep or running expense; extra units can be added to take care of growth and there is perfect control.

Write Department 14 for Catalog.

Canadian Blower & Forge Co. Limited

KITCHENER, ONT.



Penmans

Underwear, Hosiery and Sweaters
Laundry, Pulp and Papermakers' Felts, Blankets
Lumbermen's Socks, etc.

Factories at

PARIS, THOROLD, PORT DOVER, ALMONTE AND BRANTFORD, ONTARIO
ST. HYACINTHE AND COATICOOK, QUEBEC

Penmans LIMITED

PARIS : : : CANADA

Doon Twines
Limited

Kitchener - Canada

Manufacturers of

TWINES AND CORDAGE
CLOTHES LINES
PLOW LINES, etc.

We have a new line of Hemp Twine which we especially recommend for either light or heavy parcelling.

Our goods are made in Canada from the raw material. Assist the development of our country by buying Made-in-Canada goods.

MILLS AT DOON AND KITCHENER

The
MONTREAL COTTONS
LIMITED

MANUFACTURERS OF

WHITE VICTORIA LAWNS

WHITE NAINSOOKS

and

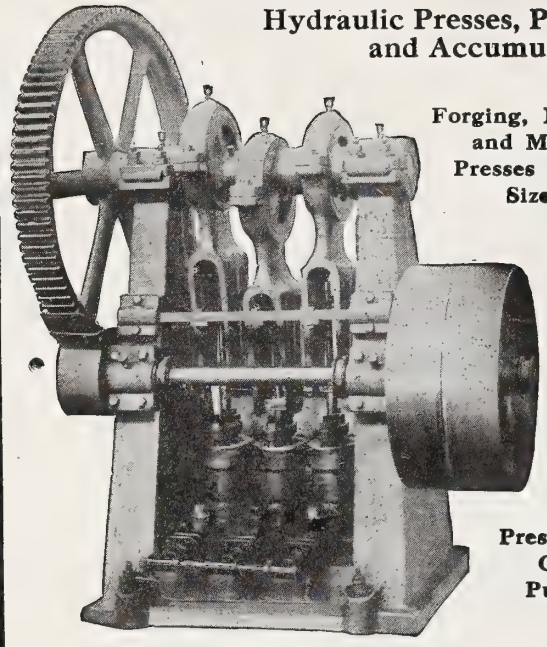
DYED COTTONS

OF EVERY DESCRIPTION

PRESSES

Made in Canada

Hydraulic Presses, Pumps and Accumulators



Forging, Nosing and Marking Presses for all Size Shells

Presses for General Purposes

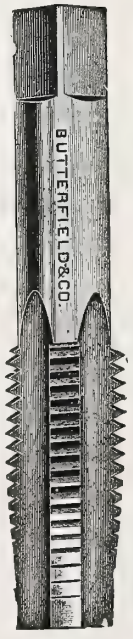
WILLIAM R. PERRIN, Limited
Toronto, Canada

Look for the name

"BUTTERFIELD"

TAPS, TWIST DRILLS GEAR AND MILLING CUTTERS

This name signifies supreme quality. We manufacture the best grade of Cutting Tools, and Butterfield Products have been known for many years to be absolutely reliable. Butterfield Tools are therefore the most economical, because they give the best and longest service.



MADE IN CANADA

Butterfield & Co., Inc.
ROCK ISLAND, QUE.
Toronto Office: 220 King St. W.

WOMEN'S AND MEN'S WAGES COMPARED

The subject of the relation of women's to men's wages is dealt with in a report recently submitted by a committee appointed last September of the British War Cabinet. The task imposed upon the committee was to investigate and report on the relation which should be maintained between the wages of women and men having regard to the interests of both as well as to the value of their work.

(Summary in "Manufacturers' News.")

The report contains a mass of historical and statistical information on the employment and wages of women, both before and during the war, with especial reference to the comparative efficiency of women and men, and their comparative earnings. Five out of the six members of the committee signed the majority report, namely, Lord Justice Atkin (the chairman), Dr. Janet Campbell, Sir Lynden Macassey, Sir W. W. Mackenzie, and Sir Matthew Nathan. One dissenting member, Mrs. Sidney Webb, signed a minority report. The work of the committee covers a wide field of detail relating to the question of equal pay for equal work, and has been conducted with a view to striking a fair balance in the scale of justice and fairness regarding the compensation of the vast army of women workers that have joined the industrial forces of Great Britain since the war began. The questions considered are no less important because of the return of peace. They are rather of greater consequence, since the total of women engaging in various kinds of labor heretofore performed almost entirely by men is now far greater than ever before. Following are the recommendations of the British committee:

Relative Value of Men's and Women's Work

Principles that should govern future relation between men's and women's wages:

(1) That women doing similar or the same work as men should receive equal pay for equal work, in the sense that pay should be in proportion to efficient output. This covers the principle that on systems of payment by results equal payment should be made to women as to men for an equal amount of work done.

(2) That the relative value of the work done by women and men on time on the same or similar jobs should be agreed between employers and trades unions, acting through the recognized channels of negotiation, as, for instance, trade boards or joint industrial councils.

(3) That where it is desired to introduce women to do the whole of a man's job, and it is recognized that either immediately, or after a probationary period, they are of efficiency equal to that of the men, they should be paid either immediately, or after a probationary period, the length and condition of which should be definitely laid down, the men's time rate.

(4) That where there has been subdivision of a man's job or work, without any *bona fide* simplification of processes or machine, and a women is put on to do a part only of the job or work, the wages should be regulated so that the labor cost to the employer of the whole job should not be lessened, while the payment to the persons engaged on it should be proportioned to their respective labor contributions.

(5) That where the introduction of women follows on *bona fide* simplification of process or machine, the time rates for the simplified process or simplified machine should be determined as if this was to be allocated to male labor less skilled than the male labor employed before simplification; and women, if their introduction is agreed to, should only



SPRINKLER TANKS and TOWERS

also wood and steel tanks for Municipal, Railway and Suburban water supply.

All our tanks and towers are built to pass inspection of any Board of Fire Underwriters.

Send for special tank and tower catalogue.

GALVANIZING HOT AND ELECTRIC

We do all kinds of hot and electro galvanizing for the trade. Our plant is one of the largest in Canada and our charges reasonable.

Write us for quotations on your galvanizing work.

Ontario Wind Engine & Pump Co., Limited

TORONTO MONTREAL WINNIPEG CALGARY



Save Fifty TO Ninety Per Cent.

of your insurance premiums and eliminate all fire worries by having us protect your factory and its output with an

Automatic Sprinkler System

Your savings in insurance premiums buy the complete system on our participating plan.

CONSULT US

Heating and Power Plants

Designed, installed or remodelled to reduce your maintenance cost to a minimum.

Expert advice given in all branches of Plumbing, Heating and Sprinkler Work.

PURDY, MANSELL LIMITED

Engineers and Contractors

63 ALBERT ST. TORONTO, CAN.

T H-E

On Buying from Yourself

Goods and service being equal you would feel impelled to buy materials for your products from another plant where you had an interest, wouldn't you? It is on that basis that Hydro asks for your power order.

The Hydro is publicly owned; therefore as a citizen you are a part owner of the system, which is operated at cost. You have an interest in Hydro. Do you use Hydro?

Toronto Hydro-Electric System

226-8 Yonge St. Branch—Gerrard and Carlaw

Canada-South Africa
Direct Service

Regular monthly sailings from Montreal in Summer and St. John, N.B., in Winter, calling at Cape Town, Algoa Bay (Port Elizabeth), East London, Port Natal (Durban) and Delagoa Bay in the order named.

Sailings 20th of each month.

All steamers fitted with refrigerators for the carriage of perishable freight.

For rates of freight and other information apply to

ELDER DEMPSTER & CO., Limited
133 BOARD OF TRADE BUILDING - - MONTREAL
Toronto Agent: S. J. SHARP, 79 Yonge St., Royal Bank Bldg.

THE
New Zealand Shipping Company Limited
CANADA
TO
Australia and New Zealand

Regular monthly sailings from Montreal in summer and St. John in winter, calling at Auckland, Wellington, Lyttelton and Dunedin (New Zealand) and Melbourne and Sydney (Australia). Sailings 20th of each month.

Through bills of lading issued to all points in Australia, New Zealand, Tasmania and other islands of Oceania.

Marine Insurance effected at rates equal to those given from New York.

For rates and other information apply to

The New Zealand Shipping Co.
LIMITED
213 Board of Trade Building, Montreal

receive less than the unskilled man's rate if and to the extent that their work is of less value.

(6) That in every case in which the employer maintains that a woman's work produces less than a man's, the burden of proof should rest on the employer, who should also have to produce evidence of the lower value of the woman's work to which the fixed sum to be deducted from the man's rate for the particular job throughout the whole of the industry should strictly correspond.

(7) That every job on which women are employed doing the same work as men for less wages should be considered a man's job for the purpose of fixing women's wages, and the wages should be regulated in the manner above recommended.

That (8) the employment of women in commercial and clerical occupations especially requires regulation in accordance with the principle of "equal pay for equal work."

(9) That in order to maintain the principle of "equal pay for equal work" in cases where it is essential to employ men and women of the same grade, capacity, and training, but where equal pay will not attract the same grade of man as of woman, it may be necessary to counteract the difference of attractiveness by the payment of married men of children's allowances, and that this subject should receive careful consideration from his majesty's government in connection with payments to teachers to which the government contributes.

(10) That the principle of "equal pay for equal work" should be early and fully adopted for the manipulative branches of the civil service, and that in the case of post-office duties the question of the men having late hours or night work should be provided for by an extra allowance to persons undertaking common duties under disagreeable conditions.

(11) That this principle with regard to allowances to persons undertaking common duties under disagreeable conditions should be applied also to industry.

Recommendations Looking to the Future

Principles that should govern future employment and wages of women:

(15) That in those trade processes and occupations which the experience of the war has shown to be suitable for the employment of women, employers and trade unions, acting through the recognized channels of negotiation, should make possible the introduction of women by agreements which would insure, in the manner above indicated, that this did not result in the displacement of men by reason of the women's cheapness to the employer.

(16) That with a view to improving the health and so increasing the efficiency of women in industry:

(i) There should be a substantial reform and extension in scope of the factory and workshops acts, with special reference to (*a*) the reduction in the hours of work (including arrangement of spells and pauses, overtime, night work); (*b*) the provision of seats, labor-saving devices, etc., to avoid unnecessary fatigue; (*c*) an improved standard of sanitation (sanitary conveniences, lavatories, checkrooms, etc.), ventilation and general hygiene; (*d*) the provision of canteens, rest rooms and surgeries; (*e*) the general supervision of the health of the workers, individually and collectively; and (*f*) the conditions under which adolescents should be employed;

(ii) The present factory medical department at the home office should at once be strengthened by the appointment of an adequate and suitable staff of women medical inspectors of factories, and that a considerable increase should be made to the present staff of lay women factory inspectors;

(iii) A local factory medical service should be established, with duties of supervision, investigation and research intimately co-ordinated with the school medical service, under the local education authority, the public health service, under the local sanitary authority, and the medical service, under



For Muscalunge and Bass- the Ontario Resorts

BALA (Muskoka Lakes)
FRENCH RIVER (French and Pickerel Rivers)
POINT AU BARIL (Georgian Bay Resorts)
BOBCAYGEON (Kawartha Lakes)
SEVERN RIVER (Gloucester Pool)
BON ECHO (Lake Mazinaw)

are conveniently reached by the

CANADIAN PACIFIC RAILWAY

W. B. HOWARD,
District Passenger Agent,
Toronto

The Canadian Wood Turpentine—made at our mills at LaTuque, P. Q., is an excellent diluent and solvent and contains no free rosin.

Further information will gladly be sent upon request.

BROWN CORPORATION

Sales Office: *Portland, Maine, U. S. A.*

STEEL FACTORY EQUIPMENT



Steel Waste Paper Basket

Steel Shop Boxes, Foundry Boxes, Shelf Boxes, Shop Barrels, Stools, Oily Waste Cans, Garbage Cans

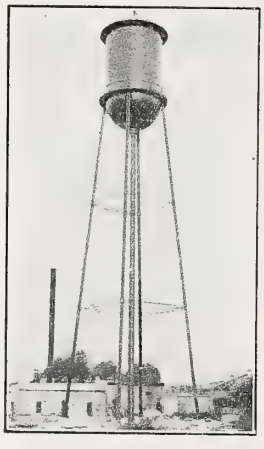
Gasoline Tanks and Pumps, Pressure Tanks, Storage Tanks, Smoke Stacks

Anything in Black or Galvanized Sheet Metal up to $\frac{1}{8}$ thickness. Send blue print or rough drawing and get our prices.

Sheet Steel Sundries for the manufacturers is one of our specialties.

Write us.

The Steel Trough and Machine Co., Limited
Tweed, Ont., Canada



CANADIAN CHICAGO BRIDGE AND IRON COMPANY
Limited
Bridgeburg, Ontario

ELEVATED STEEL TANKS
For Municipal, Railroad and Factory Service

Storage Tanks, Self-Supporting Steel Stacks and All Classes of Heavy Plate Metal Work

Write our nearest sales office to-day for prices, plans and specifications. Our catalogue No. 25 gladly mailed to you, upon request.

OFFICES:
Bridgeburg, Ont., Can., 121 Janet St.
Chicago, Ill., 2116 Old Colony Bldg.
New York, 3132 Hudson Terminal Bldg.

SHOPS:
Bridgeburg, Ontario
Greenville, Pa (Pittsburg District)
Chicago Illinois

ESTABLISHED 1875

The Boiler Inspection and Insurance Co. of Canada

Continental Life Building, Toronto

Issues Policies of Insurance after a Careful Inspection of the Boilers Covering Loss or Damage to Property and Loss Resulting from Loss of Life and Personal Injuries. Policies Guaranteed by The Hartford Steam Boiler Inspection and Insurance Company.

Assets for Security of Policyholders, $4,552,020.43.

H. N. ROBERTS . . . . . President
OLAF E. GRANBERG . . . . Vice-President
JAMES P. BYRNE . . . . . Secretary
M. B. ROBINSON . . . . . Asst. Secretary

the national insurance act or ministry of health, when established

(17) That the ministry of labor, with which should rest the duty of ascertaining both nationally and locally the demand for trained persons in any trade or occupation, should, through central and local trade advisory committees, assist local education authorities in determining the technical instruction which should be provided for women.

That (18) in order to secure and maintain physical health and efficiency, no normal woman should be employed for less than a reasonable subsistence wage.

(19) That this wage should be sufficient to provide a single woman over 18 years of age in a typical district, where the cost of living is low, with an adequate dietary, with lodging, to include fuel and light in a respectable house not more than half an hour's journey, including tram or train, from the place of work, with clothing sufficient for warmth, cleanliness, and decent appearance, with money for fares, insurance and trade union subscriptions, and with a reasonable sum for holidays, amusements, etc.

(20) That there should be additions to this wage for women working in the larger towns and in London, to cover the greater cost of living there.

(21) That this wage should be adjusted periodically, to meet variation in the cost of living.

(22) That the determination of the basic subsistence wage should be by a specially constituted authority, which should also determine variations from it to meet the conditions of different districts and of different towns, or, in rare cases, special conditions of trade.

(23) That the subsistence wage so determined should be established by statute, to take effect immediately on the expiry of the Wages (temporary regulation) Act, 1918, or any prolongation of it, and to apply to the employment for gain in all occupations (other than domestic service), for which a minimum wage has not been determined by an industrial council or by a trade board or other statutory authority.

Mothers' Pensions and Employment of Children

That (24) the government should give consideration to the question of adopting a scheme of mothers' pensions for widows and for deserted wives with children, and for the wives with children of men physically or mentally disabled, such pensions to be granted only after investigation where there is need, and subject to supervision, and otherwise to be administered on the lines followed for pensions granted to the widows of men deceased in war.

(25) That the department or departments of government concerned should draw up for the consideration of the government a scheme by which the entire direct costs involved by the lying-in of women, under thoroughly satisfactory conditions, should be provided by the state.

(26) That a scale of wages should be established for girls 50 cents a week less than the women's subsistence wage for each year under 18, and that no girl should be employed for gain at lower rates than those of this scale, unless a duly constituted authority, such as a trade board or industrial council, fixes such lower rate where the employment is of the nature of an apprenticeship. Also that the question of girls and boys under 16, working on piece, should be specially considered by the department or departments of government concerned, with a view to the definite abolition of such working if it is found to be detrimental to health.

(27) That the government should continue to give the strongest possible support to proposals for the international regulation of labor conditions, which should lessen the danger of the foreign trade of this country being injured as a result of the employment of underpaid labor abroad.

Canadian National Railways

VACATION TIME!

Change of air and change of scene are usually all that most vacationists get out of vacation. It is almost impossible to find a place so interesting that the ordinary problems of business do not intrude.

TRAVEL AND LEARN

Every man connected in a responsible way with a manufacturing concern marketing goods in Canada, should know his market. He should know, also, where his raw materials come from and how they are produced.

Get the National Idea!

TRAVEL
CANADIAN NATIONAL

Canadian National Railways

Principal Agencies in the nine provinces:—Halifax, N.S.; Moncton, N.B.; St. John, N.B.; Charlottetown, P.E.I.; Quebec, Que.; Montreal, Que.; Ottawa, Ont.; Toronto, Ont.; Port Arthur, Ont.; Winnipeg, Man.; Regina, Sask.; Saskatoon, Sask.; Prince Albert, Sask.; Edmonton, Alta.; Calgary, Alta.; Kamloops, B.C.; New Westminster, B.C.; Vancouver, B.C.; Victoria, B.C.

SOCIALISM OPPOSED TO DEMOCRACY

Democratic government is a government of co-operation, the working together of individuals, the result of individual impulse. Socialism is working together as the result of government and outward direction. That is the difference between Socialism and the co-operation with which men worked together in the Liberty Loans.

By Professor W. S. Myers.
(From "American Industries.")

It is rather interesting and curious to find that a great many of the people who have taken literally President Wilson's declaration that we must make the world safe for democracy are also making it their business to spill a sort of altruism over the entire world. They are so busy attempting to spread democracy that they are not always certain in their own minds, it seems, as to what you mean by democracy. In fact, many of their *confreres* are extremely active just at the present time in trying to so transform their own country that they go to prove that they have very little confidence in the brand of democracy that we usually have known as American. In other words, they are trying to change our government from a democratic government into an autocratic one, from an American government into one modelled on European paternalism. That is, they are trying, whether by fair means or foul, whether openly or secretly, whether in an acknowledged way or tacitly, to put us upon a socialistic basis. And socialism, to my mind, is not only un-American, but it is undemocratic.

Of course, in discussing such a thing as socialism, the first difficulty we have is to get a definition of socialism. I know a great many socialists, and seldom do you find them agreeing upon what socialism is. It is just about as hard as trying to define religion. But, by talking with a number of socialists, we work out a definition which they are willing to accept, and it is this—that socialism is the government ownership of manufacture and distribution of all forms of wealth; and by that they mean the manufacture and distribution, that is, the production and transportation, of all forms of wealth; not merely in the sense of money, but in the sense of anything that is for the economic good of man or his welfare and enjoyment.

If we are going upon that basis, where the State takes over the means of manufacture, distribution, transportation and such, it means inevitably that we are going to substitute a government judgment for the individual emulation and competition, and it will become the duty of the government to decide how people shall be happy and what their measure of happiness shall be. Now it seems to me that just as soon as you undertake to substitute a government judgment for the individual judgment, you are on ground that is anything except American, because if the government is to decide as to the happiness of the individual, of course it first relieves him of all responsibility. In a socialistic State there is not the same responsibility of citizenship as you find in democracy, like America.

It seems to me that after all ambition is not only right, but it is one of the most valuable attributes of the human mind. Because what is ambition? Is not ambition just like any other thing—the greater the value of it the greater is the wrong when it is wrongly used, the greater is the abuse? Is not ambition, after all, the desire for greater service? And, mark you, what is every business man trying to do in order to increase his business? He is trying to appeal to the service of the public, public service, in order that, by serving the public, he may increase his business. Ambition is not only one of the most valuable, but one of the most necessary, human attributes.

What is the object of the American government? It is to give equality of opportunity. As the Declaration of Independence said, men are born free and have equal rights to the pursuit—not to the gift of happiness, but to the pursuit—of happiness. The object of our Government is common equality of opportunity for each individual to work out his own salvation.

HON. FINLAY G. MACDIARMID,
Minister of Public Works

W. A. RIDDELL, M.A., Ph.D.,
Superintendent

TRADES AND LABOUR BRANCH
DEPARTMENT OF PUBLIC WORKS

THE TRADES AND LABOUR BRANCH administers the following:

The Trades and Labour Branch Act
The Bureau of Labour Act
The Stationary and Hoisting Engineers Act
The Building Trades Protection Act
The Factory, Shop and Office Building Act
The Steam Boiler Act
Employment Bureaus
Investigation and Research

Employment offices are in operation in 35 cities and towns of the Province, and are the Ontario units of the recently organized "Employment Service of Canada."

Are you getting your help through the medium of the employment service, which you as a taxpayer are helping to support?

The value of these bureaus will increase in proportion to the extent to which they are used by employers.

NOTICE TO STEAM USERS:

At the last Session of the Legislature, the Act respecting Stationary and Hoisting Engineers was amended, said amendment requires that on and after January the 1st, 1920, all stationary steam plants in the Province of Ontario must be registered with the Board of Stationary and Hoisting Engineers. Application forms for this purpose will be forwarded on request. The boiler horsepower and other information contained in these application forms is to be used for statistical purposes.

A Registration Certificate will be issued to each applicant.

W. C. McGHIE,
Chairman of Board
15 Queen's Park, Toronto

Buyers' Guide to Canadian Manufactures

List of Articles which will Enable the Purchaser to Know the Manufacturers of Made-in-Canada Goods. For Rates of Insertion in this Department write to the Advertising Manager of INDUSTRIAL CANADA, C.M.A., Toronto, Ont.

ABATTOIR MACHINERY AND SUPPLIES
*The John Whitfield Company, Toronto, Ont.

ABRASIVES
*Coralox, Limited, Hamilton, Ont.
*Canadian Hart Wheels, Limited, Hamilton, Ont.
*Dominion Abrasive Wheel Co., New Toronto, Ont.

ACCOUNT BOOKS
*The Brown Bros., Ltd., Toronto.

ACETYLENE GAS
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.

ACETYLENE GAS BURNERS
Economic Acetylene Burner Co., Toronto, Ont.
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.

ACIDS
*The Grasselli Chemical Co., Ltd., Toronto.
*The Nichols Chemical Co., Ltd., Montreal, Que.

ADVERTISING NOVELTIES
Lawson & Jones, Ltd., London, Ont.

AERATED BEVERAGES
Charles Gurd & Co., Ltd., Montreal, Que.
J. J. McLaughlin, Ltd., Toronto.

AIR COMPRESSORS
*Canadian Ingersoll-Rand Co., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

AIR DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

ALCOHOL
*Canadian Industrial Alcohol Company, Ltd., Montreal, Que.
Hiram Walker & Sons, Limited, Walkerville, Ont.

ALUMINUM
*Northern Aluminum Co., Ltd., 1805 Traders Bank, Toronto,

ALUMINUM CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

AMMONIA
Canadian Ammonia Co., Ltd., Toronto, Ont.

ANCHORS, all steel
Beauchemin & Fils, Ltd., Sorel, Que.

ANGLE BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*The Steel Company of Canada, Ltd., Hamilton, Ont.

ARSENIC
*Deloro Smelting & Refining Co., Limited. Deloro. Ont.

ARTIFICIAL LIMBS
Chesley Artificial Limb Co., Ltd., Hanstport, N.S.

ASBESTOS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS SHEATHING
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS SHEET AND PISTON PACKINGS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS STEAM PIPE AND BOILER COVERINGS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS TEXTILES
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ATTACHMENT PLUGS
*Crouse-Hinds Co., Ltd., Toronto.

AUTOGRAPHIC REGISTERS
*Autographic Register Co., Ltd., Montreal, Que.

AUTOGRAPHIC REGISTER SYSTEMS
Business Systems, Ltd., Toronto.

AUTOMOBILE ACCESSORIES
*McKinnon Industries Limited, St, Catharines, Ont.
*Northern Electric Co., Limited, Montreal, Que.
*Tallman Brass & Metal Co., Hamilton, Ont.

AUTOMOBILE PARTS
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.

AWNING CORD (cotton)
Hamilton Cotton Co., Hamilton, Ont.

AXLES
Canada Forge Co., Ltd., Welland, Ont.
Guelph Spring & Axle Co., Ltd., Guelph, Ont.

AXLES, carriage and automobile
Guelph Spring & Axle Co., Ltd., Guelph, Ont.

BABBITT METAL
Alonzo W. Spooner, Ltd., Port Hope, Ont.
*The Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BACON
E. W. Fearman Co., Ltd., Hamilton, Ont.

BAGS
*Scythes & Co., Ltd., Toronto.

BAGS, Cotton
The Canadian Bag Co., Limited, Montreal, Que.

BAGS, jute
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Ltd., Toronto.

BAGS, travelling
J. Eveleigh & Co., Ltd., Montreal.
Lamontague, Ltd., Montreal, Que.
The M. Langmuir Mfg. Co., of Toronto, Ltd., Toronto, Ont.

BAND RESAWS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

BAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

BANK FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.

BANK AND OFFICE RAILINGS AND CAGES
*Canada Wire and Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*The Geo. B. Meadows, Toronto, Wire, Iron & Brass Works Co., Ltd., Toronto, Ont.

BANK SIGNS AND FITTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

BARRELS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

BARS, iron
London Rolling Mill Co., Ltd., London, Ont.

BARS, steel
London Rolling Mill Co., Ltd., London, Ont.

BASEBALL GOODS
A. J. Reach Co., Brantford, Ont.

BATHS, enamelled
Amherst Foundry Co., Ltd., Amherst, N.S.

BATTERIES, dry
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BATTERIES, Flashlight
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BATTERIES, Storage
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BEARINGS
*The Chapman Double Ball Bearing Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BEARINGS, bronze
*Tallman Brass & Metal Co., Hamilton, Ont.

BEARINGS, pillow block and upright
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BEDS, camp folding
*Otterville Mfg. Co., Ltd., Otterville, Ont.

BEEF
E. W. Fearman Co., Ltd., Hamilton, Ont.

BELTING, chains
*Canadian Link-Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BELTING, elevator
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.

BELTING, leather
The Beardmore Belting Co., Ltd., Toronto, Ont.
*J. L. Goodhue & Co., Danville, Que.
*Sadler & Howarth, Montreal.
*The D. K. McLaren Belting Co., Ltd., Montreal, Que.
*The J. C. McLaren Belting Co., Ltd., Montreal, Que.

BELTING, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha and Rubber Ltd., Toronto, Ont.

BELTING, stitched cotton duck
*Dominion Belting Co., Ltd., Hamilton, Ont.

BENT GOODS
The Crown Lumber Co., Woodstock, Ont.

BICYCLES AND ACCESSORIES
*Canada Cycle and Motor Co., Ltd., Toronto, Ont.

BISCUITS
The Montreal Biscuit Co., Montreal, Que.

BLACK SHEETS
*A. C. Leslie & Co., Montreal, Que.

BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Ltd., Bolton, Ont,

BLANKETS, horse
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Ltd., Bolton, Ont.

BLASTING ACCESSORIES
Canadian Explosives, Ltd., Montreal, Que.

BLEACHING POWDER
Canadian Salt Co., Ltd., Windsor Ont.

BLOWERS
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

BOATS OF ALL KINDS
Peterboro Canoe Co., Ltd., Peterboro, Ont.

BOBBINS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.

BOILER COMPOUND AND OILS
Electric Boiler Compound Co., Ltd., Guelph, Ont.

BOILERS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Darling Bros., Montreal, Que.
*Goldie & McCulloch Co., Limited, Galt, Ont.
*Lauzon Engineering Ltd., Levis, Que.
J. & R. Weir, Montreal, Que.
Taylor-Forbes Co,, Ltd., Guelph,
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BOILERS, hot water or steam
Steel & Radiation Ltd., Toronto.
Warden King, Ltd., Montreal.

BOILERS, steam
Canadian Ingersoll-Rand Co., Sherbrooke, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BOILERS, steam and brass work
*The Waterous Engine Works Co., Ltd,, Brantford, Ont.

BOILER STANDS
Anthes Foundry Ltd., Toronto.

BOLSTERS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.

BOLTS AND NUTS
*The Canadian Tube & Iron Co., Ltd., Montreal, Que.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Company of Canada, Ltd., Hamilton, Ont.
Starr Mfg. Co., Ltd., Dartmouth, N.S.

BOOKBINDERS
R. G. McLean, Toronto.
*The Brown Bros., Ltd., Toronto.
The Mortimer Co., Ltd., Ottawa, Ont.

BOOKCASES
*Office Specialty Mfg. Co., Ltd,, Newmarket, Ont.

BOOKCASES, sectional (Gunn)
The George McLagan Furniture Co., Ltd., Stratford, Ont.

BOOKLETS
R. G. McLean, Toronto.

BOOKS, blank
*The Brown Bros., Ltd., Toronto.

BOOTS AND SHOES
Ames-Holden-McCready, Limited, Montreal. Que.
J. Leckie Co., Ltd.
The John Ritchie Co., Ltd., Quebec, Que.

BOXES
*Crouse-Hinds Co., Ltd., Toronto.

BOXES, cellular board
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls.

BOXES, rattle and soap
The Arlington Co. of Canada, Ltd., Toronto, Ont,

BOXES, steel shop
*Steel Trough and Machine Co., Ltd., Tweed, Ont.

BOXES AND SHOOKS, wooden
The C. Beck Mfg. Co., Ltd., Penatanguishene, Ont.

BOXES, wooden
G. & J, Esplen, Montreal, Que.
Barchard & Co., Ltd., Toronto.

BOXBOARDS, for making paper boxes
*Canada Boxboard Co., Limited, Montreal, Que.

BRAIDS AND TRIMMINGS
The Moulton Mfg. Co., Limited, Montreal, Que.

BRAKE SHOES
*Canadian Hart Wheels, Limited, Hamilton, Ont.

BRAKE SHOE BACKS
*The John Whitfield Company, Toronto, Ont.

BRANDS, burning
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

*For Display Advertisement see Index, Page 43

BRASS BOLTS AND NUTS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS AND BRONZE WIRE
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

BRASS, BRONZE and ALUMINUM LETTERS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS ENGRAVERS
Pritchard, Andrews Co, of Ottawa, Ltd., Ottawa, Ont.

BRASS FOUNDERS AND FINISHERS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS GOODS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Mueller Mfg. Co,, Sarnia, Ont.
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
*The Kerr Engine Co., Limited, Walkerville, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS PLATES
Geo. Booth & Son, Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS RODS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS RODS, SHEETS AND PLATES
*Brown's Copper and Brass Rolling Mills, Ltd,, New Toronto.

BRASS SHEETS AND PLATES
*Dominion Copper Products Company, Ltd., Montreal, Que.

BRASS SIGNS AND MEMORIALS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS TUBING, seamless
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Company, Ltd., Montreal, Que.

BRASS WIRE
Canadian Seamless Wire Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS WORK, church
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

BRASS WORK, special
Bawden Machine Co., Ltd., Toronto, Ont.
*H. Mueller Mfg. Co., Ltd., Sarnia, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BRICK
National Brick Co. of Laprairie, Laprairie, Que.
Port Credit Brick Co., Port Credit, Ont.
The Citadel Brick & Paving Block Co., Ltd., Quebec, Que.

BRICK, enamel
National Brick Co. of Laprairie, Laprairie, Que.

BRICK, pressed
National Brick Co. of Laprairie, Laprairie, Que.
The Citadel Brick & Paving Block Co., Ltd., Quebec, Que.

BRICK, rubbing
*Canadian Hart Wheels, Limited, Hamilton, Ont.

BRICK, sewer.
National Brick Co. of Laprairie, Laprairie, Que.

BRIDGES, Railway and Highway
*Hamilton Bridge Works Co., Ltd,, Walkerville, Ont.
*The Canadian Bridge Co., Ltd., Hamilton, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
*Dominion Bridge Co., Montreal.
*Mackinnon Steel Co., Ltd., Sherbrooke, Que.
*Manitoba Bridge & Iron Works, Ltd., Winnnpeg, Man,

BROOMS
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Limited, Port Elgin, Ont.

BRONZE SHEETS AND PLATES
*Dominion Copper Products Company, Ltd., Montreal.

BRONZE SHEETS, RODS, PLATES
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

BRONZE TUBING, seamless
*Dominion Copper Products Company, Limited, Montreal,

BRUSHES
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Ltd., Port Elgin, Ont.

BRUSHES, carbon
Canadian National Carbon Co., Ltd., Toronto.

BUCKET TANKS
*MacKinnon Steel Co., Ltd,, Sherbrooke, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.

BUCKLES, shoe and coat
Parmenter & Bulloch Co., Limited, Gananoque, Ont.

BUCKLES, harness and trunk
*McKinnon Industries, Ltd., St. Catharines, Ont.

BUILDING BLOCKS, vitrified, salt glazed
Standard Clay Products, Ltd., St. Johns, Que.

BUILDING FELT AND PAPER
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont,
*The Barrett Co., Ltd., Toronto and Montreal.

BURLAPS
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Ltd., Toronto.

BURLAPS, decorative
Dominion Oil Cloth Co., Limited, Montreal, Que.

CABLE ACCESSORIES
*Crouse-Hinds Co., Ltd., Toronto.

CABLES, electric light, power, telephone and telegraph
*Standard Underground Cable Co. of Canada, Ltd,, Hamilton, Ont.

CABLES, transmission and telephones
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.

CABLES, transmission and cable
*Northern Electric Co., Ltd., Montreal, Que.

CABLES, wire
The Dominion Wire Rope Co., Ltd., Montreal, Que.
*The B. Greening Wire Co., Ltd., Hamilton, Ont.

CALENDARS, ADVERTISING NOVELTIES, etc.
Lawson & Jones, Ltd., London.

CAMERAS
Canadian Kodak Co., Ltd., Toronto, Ont.

CAMPERS' OUTFITTERS
Slingsby Mfg. Co., Ltd., Brantford, Ont.

CANADA SILVER
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

CANOES
Peterboro Canoe Co., Ltd., Peterboro, Ont.
*Canadian Canoe Co., Ltd., Peterboro, Ont.

CANS, baking powder, etc.
American Can Co., Montreal (Que.) and Hamilton (Ont.).
A. R. Whittall Can. Co., Ltd., Montreal, Que.
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANS, fruit
American Can Co., Montreal (Que.) and Hamilton (Ont.).
A. R. Whittall Can. Co., Ltd., Montreal, Que.
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANS, iron, lead and putty
A. R. Whittall Can. Co., Ltd., Montreal, Que.

CANS, tin
A. R. Whittall Can Co., Ltd., Montreal, Que.
American Can Co., Montreal (Que.) and Hamilton (Ont.).
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANVAS
*Scythes & Co., Ltd., Toronto, Ont.

CAPS, cloth
John W. Peck & Co., Ltd., Montreal, Que.

CAPS FOR HUBS
*McKinnon Industries, Ltd., St. Catharines, Ont.

CARBIDE
*Canada Carbide Co., Ltd., Montreal, Que.
*Union Carbide Co. of Canada, Ltd. Works, Welland, Ont. Head Office, Toronto, Ont.

CARBONS, electric
Canadian National Carbon Co., Ltd., Toronto, Ont.

CARBONS (headlight)
*Crouse-Hinds Co., Ltd., Toronto.

CARBONIC ACID GAS
Canadian Carbonate Co., Montreal.

CARD RECORD SYSTEMS
Lowe-Martin Co., Ltd., Ottawa, Ont.
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

CARPETS AND RUGS
Toronto Carpet Mfg. Co., Limited, Toronto.

CARPETS AND RUGS, Axminster and ingrain
Toronto Carpet Mfg. Co., Ltd.

CARPETS AND RUGS, Brussels and Wilton
Toronto Carpet Mfg. Co., Ltd., Toronto, Ont.

CARPET YARNS, worsted and wool
Toronto Carpet Mfg. Co., Ltd., Toronto, Ont.

CARRIAGE CASTINGS
*McKinnon Industries, Ltd., St. Catharines, Ont.

CARRIAGES, baby, etc.
Canada Furniture Manufacturers. Ltd., Woodstock, Ont.

CARRIERS
*Richards-Wilcox Canadian Co., Ltd., London, Ont.

CARRIERS, box and barrel
*Canadian Mathews Gravity Carrier.

CARRIERS, brick
*Canadian Mathews Gravity Carrier Co., Limited, Toronto.
*Richards-Wilcox Canadian Co., Ltd., London, Ont.

CARS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*National Steel Car Co., Ltd., Hamilton, Ont.

CARS, industrial
Hammant Steel Car & Engineering Works, Hamilton, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.

CARTONS, lithographed
Harris Lithographing Co., Ltd., Toronto, Ont.

CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, aluminum
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, brass
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Lauzon Engineering, Ltd., Levis, Que.
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, brass and bronze
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, grey iron
*Canadian Rumely Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Dodge Mfg. Co., Toronto.
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Wm. Kennedy & Sons, Ltd., Owen Sound, Ont.
*Lauzon Engineering, Ltd., Levis, Que.

CASTINGS, malleable iron
*Crouse-Hinds Co., Ltd., Toronto.
*Galt Malleable Iron Co., Ltd., Galt, Ont.

CASTINGS, steel
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Founderies, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton, Ont.
*Hull Iron & Steel Foundry, Ltd., Hull, P.Q.
*Wm. Kennedy & Sons, Ltd., Owen Sound, Ont.

CATALOGUE MAKERS
Grip, Ltd., Toronto, Ont.

CATALOGUE COVERS, by new lithographing process
Harris Lithographing Co., Ltd., Toronto, Ont.

CAUSTIC SODA
Canadian Salt Co., Ltd., Windsor.

CAUSTICS
*Dominion Oil Co., Ltd., Hamilton.

CELLBOARD
Adams Cellboard Co., Toronto.

CEMENT GUNS
Steel & Radiation, Ltd., Toronto.

CENTRIFUGAL PUMPS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

CHAINS, for elevators, conveyors and drives
*Canadian Link-Belt Co., Toronto.

CHAINS, sling
*The John Whitfield Co., Toronto.

CHAIRS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

CHAIRS, assembly hall
Stratford Mfg. Co., Ltd., Stratford, Ont.

CHAIRS, folding
Stratford Mfg. Co., Ltd., Stratford, Ont.

CHAIRS, rattan and upholstered
Imperial Rattan Co., Ltd., Stratford, Ont.

CHAIRS FOR AUTOMOBILES, camp, boat
*McKinnon Industries, Ltd., St. Catharines, Ont.

CHECKS, swing checks, etc.
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

CHEMICALS
Canadian Laboratory Supplies, Ltd., Toronto, Ont.
*Dominion Oil Co., Ltd., Hamilton, Ont.
*The Grasselli Chemical Co., Ltd., Toronto, Ont.
*The Nichols Chemical Co., Ltd., Montreal, Que.

CHEMISTS, industrial
*Milton Hersey Co., Montreal.

CHICLETS AND CHEWING GUM
Canadian Chewing Gum Co., Ltd., Toronto, Ont.

CIGARETTES AND TOBACCO
Philip Morris & Co., Ltd., Montreal, Que.

CIRCULAR CUTTERS, solid steel
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Ltd., Galt, Ont.

CIRCULAR SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

CLAM SHELL BUCKETS
*M. Beatty & Sons, Ltd., Welland, Ont.

CLOCKS, time
*International Business Machines Co., Ltd., Toronto.

CLOCKS, watchmen's
*The Bennett & Wright Co., Ltd., Toronto, Ont.

CLOSET SEATS
*Goderich Organ Co., Goderich,Ont.

CLOTHING
John W. Peck & Co., Ltd., Montreal, Que.

CLOTHING, leather and sheepskin lined coats
*A. R. Clarke & Co., Ltd., Toronto.

CLOTHING, Mackinaw
The Carss Mackinaw Clothing Co., Ltd., Orillia, Ont.

CLOTHES LINES, cotton
Hamilton Cotton Co., Hamilton, Ont.

CLUTCHES
*Dodge Mfg. Co., Ltd., Toronto.

CLUTCHES, conveyors
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

*For Display Advertisement see Index, Page 43

COAL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
Standard Fuel Co., Toronto, Ont.
COAL CUTTERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal.
COBALT OXIDE
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
The Coniagas Reduction Co., Ltd., St. Catharines, Ont.
COBALT METAL
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
COFFEE
S. H. Ewing & Sons, Montreal.
COLD DRAWN SHAPES, flats, squares and hexagons
*The Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*Union Drawn Steel Co.. Ltd., Hamilton, Ont.
COLD STORAGE DOORS
John Hillock & Co., Ltd., Toronto.
COLLAR BUTTONS
The Arlington Co. of Canada, Ltd., Toronto, Ont.
COLLARS
The Standard Shirt Co., Ltd., Montreal, Que.
COLLARS, coated linen
Parsons & Parsons Canadian Co., Hamilton, Ont.
COLLARS, shaft
Bond Engineering Co., Toronto.
COLORS
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal.
COMBS, fine dressing and name
The Arlington Co. of Canada, Ltd., Toronto, Ont.
COMMERCIAL STATIONERY
*Brown Bros.. Ltd., Toronto, Ont.
CONCRETE COATINGS, PAINTS, Etc.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
CONDUITS FOR INTERIOR WIRING
*Conduits Co., Ltd., Toronto, Ont.
CONDULET BOX FITTINGS
*Crouse-Hinds Co., Ltd., Toronto.
CONDULETS (marine)
*Crouse-Hinds Co., Ltd., Toronto.
CONFECTIONERY
Ganong Bros., Ltd., St. Stephens, N.B.
Moirs, Ltd., Halifax, N.S.
The Montreal Biscuit Co., Montreal, Que.
CONTAINER BOARD—strong container
Bathurst Lumber Co., Ltd., Bathurst, N.B.
CONTRACTOR'S PLANT
*M. Beatty & Sons, Ltd., Welland, Ont.
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
Canadian Ingersoll-Rand Co., Sherbrooke, Que.
CONVEYORS
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
COPPER
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
COPPER, SHEETS, PLATES, BARS, RODS
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto, Ont.
COPPER SHEETS AND PLATES
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Co., Ltd., Montreal, Que.
COPPERSMITHS
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
COPPER TUBING, seamless
*Dominion Copper Products Co., Ltd., Montreal, Que.
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.

COPPER WIRE
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
CORKS
S. H. Ewing & Sons, Montreal, Que.
CORK CARPET
Dominion Oil Cloth Co., Ltd., Montreal, Que.
CORRUGATED PAPER BOXES
Adams Cellboard Co., Toronto.
Corrugated Paper Box Co., Ltd., Toronto, Ont.
*Hinde & Dauch Paper Co., Toronto, Ont.
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls,Ont.
CORUNDUM, artificial
*Coralox, Ltd., Hamilton, Ont.
CORSETS
Dominion Corset Co., Quebec, Que.
COTTONS
*Dominion Textile Co., Ltd., Montreal, Que.
*Montreal Cottons, Ltd., Valleyfield, P.Q.
COTTONADES
Hamilton Cotton Co., Hamilton, Ont.
COUPLERS
*Canadian Steel Foundries, Ltd., Welland, Ont.
COUPLINGS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
CRANES
*Northern Crane Works, Walkerville, Ont.
*The Herbert Morris Crane and Hoist Co., Ltd., Niagara Falls, Ont.
CRANKSHAFTS
Canada Forge Co., Ltd., Welland, Ont.
*The John Whitfield Co., Toronto, Ont.
CREAM CHEESE, Ingersoll
The Ingersoll Packing Co., Ltd., Ingersoll, Ont.
CREAM SEPARATORS AND MILK CLARIFIERS
De Laval Dairy Supply Co., Peterboro, Ont.
The Renfrew Machinery Co., Ltd., Renfrew, Ont.
CREAMERY AND CHEESE FACTORY MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
CREOSOTED MATERIALS
*The Barrett Co., Ltd., Toronto and Montreal.
CRUCIBLES, plumbago
Dominion Crucible Co., Ltd., Montreal, Que.
CRUSHED STONE
The Hagersville Contracting Co., Ltd., Hagersville, Ont.
CUPOLAS
*Sheldons, Ltd., Galt, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
CUPS, presentation
Standard Silver Co., Toronto, Ont.
CURLED HAIR
*Delany & Pettit, Ltd., Toronto.
CURTAINS, chenille
Hamilton Cotton Co., Hamilton, Ont.
CUTLERY
Standard Silver Co., Toronto, Ont.
CUTTERS, machine
*Pratt & Whitney Co., Dundas, Ont.
DASHES, for buggy and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
DECALCOMANIA TRANSFERS
Canada Decalcomania Co., Toronto, Ont.
DECK PLUGS, electric marine
*Crouse-Hinds Co., Ltd., Toronto.
DENIMS
Hamilton Cotton Co., Hamilton, Ont.
DERAILS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
DESIGNERS
Ontario Engraving Co., Hamilton, Ont.
DESIGNERS AND PRINTERS OF BOOKLETS, Etc.
Grip, Ltd., Toronto, Ont.

DESKS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
DESICCATED VEGETABLES
Grahams, Ltd., Belleville, Ont.
DINING ROOM SUITES
The George McLagan Furniture Co., Ltd., Stratford, Ont.
DIES
*Butterfield & Co.. Rock Island, P.Q.
*Pratt & Whitney Co., Dundas, Ont.
*John Whitfield Co., Toronto.
DISINFECTING APPARATUS
Spramotor Co., London, Ont.
DOOR HANGERS
*Richards Wilcox Canadian Co., Ltd., London, Ont.
DOUBLETREES
*McKinnon Industries, Ltd., St. Catharines, Ont.
DREDGES
*M. Beatty & Sons, Ltd., Welland, Ont.
DRESSING, belt
Sadler & Haworth, Montreal, Que.
DRESS AND CLOAK TRIMMINGS
J. Henry Peters Co., 1 Mincing St., Toronto, Ont.
DRIFT BOLT DRIVERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILL PRESSES
*Canada Machinery Corporation, Ltd., Galt, Ont.
DRILL SHARPENERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILLS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*Pratt & Whitney Co., Dundas,Ont.
DRILLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILLS, rock
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRIFT BOLTS OR SPIKES
London Rolling Mill Co., Ltd., London, Ont.
DROP FORGINGS.
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
DROP HAMMERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
DRUMS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
DRY COLORS
P. D. Dods & Co., Ltd., Montreal.
The Imperial Varnish & Color Co., Ltd., Toronto.
R. C. Jamieson & Co., Ltd., Montreal, Que.
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
DUMB WAITERS
Turnbull Elevator Mfg. Co., Toronto, Ont.
DURABLE WIRE ROPE
The Dominion Wire Rope Co., Ltd., Montreal, Que.
DYNAMITE
Canadian Explosives, Ltd., Montreal. Que.
DYNAMOS
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
DYNAMOS, plating
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
EIDERDOWN
Galt Knitting Co., Ltd., Galt, Ont.
ELECTRIC APPLIANCES
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
ELECTRICAL COMPOUNDS
Standard Paint Co. of Canada, Ltd., Montreal, Que.
ELECTRIC COOKING APPLIANCES
*Canadian General Electric Company, Ltd., Toronto.
ELECTRIC LAMPS
Packard Electric Co., Ltd., Toronto, Ont.

ELECTRIC PLATE WARE
Roden Bros., Ltd., Toronto, Ont.
ELECTRIC BRANDING TOOLS
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
ELECTRIC RAILWAY EQUIPMENT
*Crouse-Hinds Co., Ltd., Toronto.
ELECTRODES, carbon
Canadian National Carbon Co., Ltd., Toronto, Ont.
ELECTROTYPING
Central Press Agency, Ltd., Toronto.
ELECTRICAL SUPPLIES
*Canadian General Electric Company, Ltd., Toronto, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
*Jones & Moore Electric Co., Ltd.,
*Northern Electric Co., Ltd., Montreal, Que.
ELECTRIC SOLDERING IRON
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
ELECTRO-SILVER PLATED WARE
Standard Silver Co., Toronto, Ont.
ELEVATING MACHINERY
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto, Ont.
ELEVATORS
*Jenckes Machine Co., Sherbrooke, Que.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
Turnbull Elevator Mfg. Co., Toronto, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
ELEVATORS FOR ALL PURPOSES
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
ELEVATOR GATES AND DOORS
Turnbull Elevator Mfg. Co., Ltd., Toronto, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
ELEVATOR GUARDS
*The Geo. B. Meadows, Toronto.
Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
*Canada Wire and Iron Goods Co., Hamilton, Ont.
EMERY DRESSERS AND STANDS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY GRINDERS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY WHEELS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY WHEEL GUARDS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
ENAMELS
R. C. Jamieson & Co., Ltd., Montreal, Que.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
ENAMEL MANUFACTURERS AND DECORATORS
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
ENAMEL AND TIN WARE
McClary Mfg. Co., London, Ont.
ENGINES
*E. Leonard & Sons, London, Ont.
*Goldie & McCulloch Co., Lt., Galt, Ont.
J. & R. Weir, Montreal, Que.
*Lauzon Engineering, Ltd., Levis, Que.
*Sheldons, Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
ENGINES, gas and gasoline
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*Hamilton Motor Works, Ltd., Hamilton, Ont.
*Massey-Harris Co., Ltd., Toronto.
ENGINES, gasoline, tractor, plowing and threshing
*Sawyer-Massey Co., Ltd., Hamilton. Ont.
ENGINES, hoisting
*M. Beatty & Sons, Welland, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

*For Display Advertisement see Index, Page 43

ENGINES, marine, gasoline and kerosene
Bruce, Stewart & Co., Ltd., Charlottetown, P.E.I.
ENGINES, steam plowing and threshing
*Sawyer-Massey Co., Ltd., Hamilton, Ont.
ELECTRICAL AND GAS FIXTURES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
*Tallman, Brass & Metal Co., Hamilton, Ont.
ELECTRIC HEATING APPLIANCES
*Canadian General Electric Co., Ltd., Toronto, Ont.
ENGRAVERS, photo
Grip, Ltd., Toronto, Ont.
Ontario Engraving Co., Hamilton, Ont.
The Mortimer Co., Ltd., Ottawa.
ENGRAVERS, half-tone
Grip, Ltd., Toronto.
Ontario Engraving Co., Hamilton, Ont.
ENGRAVERS, wood
Ontario Engraving Co., Hamilton, Ont.
ENGRAVERS AND PRINTERS steel plate
American Bank Note Co., Ottawa, Ont.
ENGRAVERS AND PRINTERS bank note
American Bank Note Co., Ottawa, Ont,
ENGRAVING
*J. L. Jones Engraving Co., Toronto, Ont.
ENGRAVING, copper and steel plate
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
ENSILAGE AND STRAW CUTTERS
J. Fleury's Sons, Aurora, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
EVAPORATED APPLES
Grahams, Ltd., Belleville, Ont.
ENVELOPES
Barber-Ellis Co., Ltd., Toronto.
Canada Envelope Co., Montreal, Que.
EVENERS, for 2, 3, 4, 6 and 8 horses
*McKinnon Industries, Ltd., St. Catharines, Ont.
EXCELSIOR
*Delany & Pettit, Ltd., Toronto.
EXCELSIOR PADS
Parmenter & Bulloch Co., Ltd., Gananoque, Ont.
EXPERTS IN PATENT CAUSES
Ridout & Maybee, Toronto, Ont.
EXPLOSIVES, high
Canadian Explosives, Ltd., Montreal, Que.
FACE PLATE JAWS
Ker & Goodwin, Brantford, Ont.
FACTORY SUPPLIES, cheese and creamery
De Laval Dairy Supply Co., Ltd., Montreal, Que.
FANS
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
FASTENERS, belt
*Sadler & Haworth, Montreal, Que.
FELTS, pulp and paper makers
Ayers, Ltd., Lachute Mills, P.Q.
*Beveridge Paper Co., Ltd., Montreal, Que.
FENCES AND GATES
*Dennis Wire & Iron Works Co., London, Ont.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
FENCING AND GATES, woven wire
*Canada Wire and Iron Goods Co., Hamilton, Ont.
FENCING, wire
C. H. Johnson & Sons, Ltd., Montreal, Que.
FENDERS, for buggy and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
FIBRE PAILS
*The E. B. Eddy Co., Ltd., Hull, Que.
FILES
Henry Disston & Sons, Ltd., Toronto, Ont.
*The Nicholson File Co., Port Hope.
FILING CABINETS
*Office Specialty Co., Newmarket, Ont.
FILING EQUIPMENT, wood & steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
FILING SYSTEMS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
Lowe-Martin Co., Ltd., Ottawa, Ont.
FIRE ALARMS
*Northern Electric Co., Ltd., Montreal, Que.
FIRE BRICK
Dominion Fire Brick & Clay Products, Ltd., Moose Jaw, Sask.
FIRE BRICK AND CLAY
Dominion Fire Brick & Clay Products, Ltd., Moose Jaw, Sask.
FIRECLAY
Jas. W. Foley & Co., St. John, N.B.
FIRE DOOR HARDWARE
Richards Wilcox Canadian Co., Ltd., London, Ont.
FIRE DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People, Ltd., Oshawa, Ont.
FIRE ENGINES
*Waterous Engine Works Co., Ltd., Brantford, Ont.
FIRE ESCAPES
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
FIRE EXTINGUISHERS
*A. B. Ormsby Co., Ltd., Toronto.
*Booth-Coulter Copper & Brass Co., Ltd., Montreal, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
FIRE FIGHTING APPARATUS
*Waterous Engine Works Co., Ltd., Brantford, Ont.
FIRE HOSE
*Canadian Consolidated Rubber Co. of Canada, Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber, Ltd., Toronto, Ont.
FIRE PREVENTION MATERIAL
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*Eureka Mineral Wool & Asbestos Co., Toronto.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
FIRE PROOF WINDOWS AND DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
FIRE SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy Mansell Co., Toronto, Ont.
*H. G. Vogel Co., Montreal, Que.
FIRE AND WATER DEPARTMENT
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
The Garth Co., Montreal, Que.
FISH, Atlantic Sea-Foods
Maritime Fish Corporation, Ltd., Montreal, Que.
FITTINGS FOR SOIL PIPE
Anthes Foundry, Ltd., Toronto.
FITTINGS, steam
Warden King Ltd., Montreal, Que.
FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.
FLAGS
*Scythes & Co., Ltd., Toronto, Ont.
FLANGES, for wheels
*McKinnon Industries, Ltd., St. Catharines, Ont.
FLOODLIGHTS, electric
*Crouse-Hinds Co., Ltd., Toronto.
FLOORING, hardwood
Seaman Kent Co., Ltd., Meaford, Ont.
FLOUR MILL MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
FLUE LINERS
Standard Clay Products, Ltd., St. Johns, Que.
FORGES
*Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
*Sheldons, Ltd., Galt, Ont.
FORGINGS
Canada Forge Co., Ltd., Welland, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
*The John Whitfield Co., Toronto.
FORGINGS, drop
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
FOUNDRY EQUIPMENT
*Northern Crane Works, Ltd., Walkerville, Ont.
FOUNTAIN FRUITS AND JUICES
J. J. McLaughlin, Ltd., Toronto.
FOUNTAINS, drinking
*Mueller Mfg. Co., Ltd., Sarnia, Ont.
FRICTION CLUTCH PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.
FROGS AND CROSSINGS, manganese
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.
FUEL
Standard Fuel Co., Toronto, Ont.
FUR GARMENTS, men's and women's
Holt, Renfrew, Ltd., Quebec.
FUR GOODS
John W. Peck & Co., Ltd., Montreal, Que.
FUR TRIMMINGS, ornaments and buttons
J. Henry Peters Co., 1 Mincing St., Toronto, Ont.
FURNACES
McClary Mfg. Co., London, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
FURNITURE, hall
The George McLagan Furniture Co., Ltd., Stratford, Ont.
FURNITURE, office
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.
FURNITURE, reed and rattan
Imperial Rattan Co., Ltd., Stratford, Ont.
FUSE BOXES
*Crouse-Hinds Co., Ltd., Toronto.
FUSE PLUGS AND FUSES, refillable
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
FUSES
*Economy Fuse & Mfg. Co., Montreal, Que.
GALVANIZED IRON
*A. C. Leslie & Co., Montreal.
GALVANIZED SHEETS
*Dominion Sheet Metal Co., Hamilton, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
GALVANIZERS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*The Pedlar People, Ltd., Oshawa.
*McKinnon Industries, Ltd., St. Catharines, Ont.
GASOLINE ENGINES
*Ontario Wind & Pump Co., Ltd., Toronto, Ont.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
GASOLINE FIRE ENGINES
*Waterous Engine Works Co., Ltd., Brantford, Ont.
GASOLINE STORAGE SYSTEMS, special underground
S. F. Bowser & Co., Toronto.
*Steel Trough & Machine Co., Ltd., Tweed, Ont.
GASOLINE
*The Imperial Oil Co., Ltd., Toronto, Ont.
GAUGES
*Brown Engineering Corporation, Toronto, Ont.
*John Whitfield Co., Toronto.
GEARS, cut
*Brown Engineering Corporation, Toronto, Ont.
*Hamilton Gear and Machine, Toronto.
*Winnipeg Gear & Engineering Co., Ltd., Winnipeg, Man.
*The John Whitfield Co., Toronto.
GELATINE
Canada Gelatine Co., Ltd., Brantford, Ont.
GENERATORS
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
GENERATORS, electric
*Canadian General Electric Co., Ltd., Toronto.
GILDING METAL
*Dominion Copper Products Co., Ltd., Montreal, Que.
GLASSWARE
Dominion Glass Co., Ltd., Montreal, Que.
GLASSWARE, cut
Roden Bros., Ltd., Toronto.
GLASS FOR BUILDINGS
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLASS BENDERS
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLASS, mirror
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLOVES AND MITTS
*A. R. Clarke & Co., Ltd., Toronto.
Craig, Cowan Co., Ltd., Toronto.
GLUE
Canada Glue Co., Ltd., Brantford, Ont.
*Delany & Pettit, Ltd., Toronto.
GOLD-FILLED WIRE AND PLATE
Canadian Seamless Wire Co., Toronto, Ont.
GOLD AND SILVER REFINERS
Canadian Seamless Wire Co., Toronto, Ont.
GRAIN CRUSHERS, rapid, easy
J. Fleury's Sons, Aurora, Ont.
GRAPE JUICE
J. J. McLaughlin, Ltd., Toronto.
The Welch Co., Ltd., St. Catharines, Ont.
GRATES
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
GRAVITY CARRIERS
*Canadian Mathews Gravity Carrier Co., Toronto, Ont.
GREASES
*Dominion Oil Co., Ltd., Hamilton, Ont.
GRILLES, metal
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
GRINDER, bench
Bond Engineering Co., Toronto.
GRINDERS, portable
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
GRINDERS, pedestal and bench
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
GRINDING AND POLISHING MACHINERY
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
GRINDING WHEELS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
*The Dominion Abrasive Wheel Co., Ltd., New Toronto, Ont.
GRINDSTONES
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
GUARDS, condulet
*Crouse-Hinds Co., Ltd., Toronto.
GUNN SECTIONAL BOOKCASES
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
GUY ANCHORS
B. J. Coghlin Co., Ltd., Montreal.
GUL RODS
*Crouse-Hinds Co., Ltd., Toronto.
GYPSUM, crushed
*Albert Mfg. Co., Hillsborough, N.B.
GYPSUM PRODUCTS
*Manitoba Gypsum Co., Ltd., Winnipeg, Man.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.

*For Display Advertisement see Index, Page 43

HACK SAW BLADES AND FRAMES
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HACK SAW MACHINES
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HALL FURNITURE
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
HAMS
F. W. Fearman Co., Ltd., Hamilton, Ont.
HAMES, steel and iron
*McKinnon Industries, Ltd., St. Catharines, Ont.
HANDLES (axe, pick, sledge hammers, etc.)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.
HANDLES, wood
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
*Toy products, Ltd., Farm Point, Que.
HAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HANGERS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
HARDWARE
*Richards - Wilcox Canadian Co., Ltd., London, Ont.
Taylor-Forbes Co., Ltd., Guelph, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
HARNESS
Lamontagne, Ltd., Montreal, Que.
HATS, men's straw
The Crown Hat Co., Ltd., Galt, Ont.
HARNESS HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.
HATS, ladies' and children's straw
The Crown Hat Co., Ltd., Galt, Ont.
HATS, ladies' and children's felt and beaver
The Crown Hat Co., Ltd., Galt, Ont.
HATS, ladies' felt and straw
Toronto Hat Mfg. Co., Toronto.
HAULAGE, wire rope
The Dominion Wire Rope Co., Ltd., Montreal, Que.
HEADING SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HEADLIGHT, electric
*Crouse-Hinds Co., Ltd., Toronto.
HEATERS
*Waterous Engine Works Co., Ltd., Brantford, Ont.
HEATERS, feed water
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
HEATING APPLIANCES
*C. A. Dunham Co., Ltd., Toronto.
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
HEATING SYSTEMS
*C. A. Dunham Co., Ltd., Toronto.
HEMLOCK, union and oak sole
Breithaupt Leather Co., Ltd., Kitchener, Ont.
HESSIANS
The Canadian Bag Co., Ltd., Montreal, Que.
*Scythes & Co., Ltd., Toronto.
HINGES
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
HOISTS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOISTS, electric and pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOISTING MACHINERY
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOOKS, for logging chains
*McKinnon Industries, Ltd., St. Catharines, Ont.
HOSE, fire
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber, Ltd., Toronto, Ont.
HOSE, half, Imperial
Kingston Hosiery Co., Ltd., Kingston, Ont.
HOSE, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd.
HUB CAPS
*McKinnon Industries, Ltd., St. Catharines, Ont.
HUBS, for Ford cars
*McKinnon Industries, Ltd., St. Catharines, Ont.
HYDRAULIC PRESSES
*Bawden Machine Co., Ltd., Toronto, Ont.
*William R. Perrin, Ltd., Toronto
HYDRO-ELECTRIC PLANTS
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
ICE CREEPERS
Parmenter & Bulloch Co., Ltd., Gananoque, Ont.
ICE-MAKING MACHINERY
The Linde Canadian Refrigeration Co., Ltd., Montreal, Que.
INCUBATORS AND BROODERS
Lee Mfg. Co., Ltd., Pembroke, Ont.
INGOT METALS
*Brown's Copper & Brass Rolling Mills, Ltd., New Toronto, Ont.
INSERTED TOOTH SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
INSULATING COMPOUNDS
The Imperial Varnish & Color Co., Ltd., Toronto.
INSULATORS
*Crouse-Hinds Co., Ltd., Toronto.
INTERLOCKING RUBBER TILING
*Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd., Toronto, Ont.
INVERTS
Standard Clay Products, Ltd., St. Johns, Que.
IRON
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
IRON, refined bar
Starr Mfg. Co., Ltd., Dartmouth, N.S.
IRON AND STEEL BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
IRON STAIRWAYS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
IRONWORK, architectural
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
IRONWORK, ornamental
*Canada Wire & Iron Goods Co., Hamilton, Ont.
IRON, LEAD AND PUTTY
A. R. Whittall, Montreal, Que.
IRON PUMPS
*Medicine Hat Pump and Brass Mfg. Co., Medicine Hat, Alta.
JACKS
*Globe Engineering Co., Ltd., Hamilton, Ont.
JAM, canned goods, etc.
E. D. Smith & Son, Ltd.
JAPANS, enamels, etc.
A. Muirhead Co., Ltd., Toronto.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
JIGS AND TOOLS
*Brown Engineering Corporation, Toronto, Ont.
JOINTERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
JELLY POWDER
S. H. Ewing & Sons, Montreal.
JEWELRY, enamelled souvenir
Caron Bros., Montreal, Que.
JEWELRY, gold-filled
Caron Bros., Montreal, Que.
JOIST HANGERS
*Richards - Wilcox Canadian Co., Ltd., London, Ont.
JUNCTION BOXES, cable
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
KELSEY WARM AIR GENERATOR
The Jas. Smart Mfg. Co., Limited, Brockville, Ont.
KILNS
*Sheldons, Ltd., Galt, Ont.
KINDLING
Standard Fuel Co., Toronto, Ont.
KNIFE GRINDERS
*Canada Machinery Corporation Ltd., Galt, Ont.
*W. H. Banfield & Sons, Toronto.
KNITTED GOODS
*Penman's, Ltd., Paris, Ont.
KNIVES
*Galt Knife Co., Ltd.
*The Peter Hay Knife Co., Ltd., Galt, Ont.
Simonds Canada Saw Co., Ltd., Montreal, Que.
KNIVES, pulp and paper
Henry Disston & Sons, Toronto.
*The Peter Hay Knife Co., Ltd., Galt, Ont.
KODAKS AND PHOTOGRAPHIC SUPPLIES
Canadian Kodak Co., Ltd., Toronto.
LABELS
Lawson & Jones, Ltd., London, Ont.
LABELS, lithographed
Harris Lithographing Co., Ltd., Toronto, Ont.
LABORATORY SUPPLIES
Canadian Laboratory Supplies, Ltd., Toronto.
LACE LEATHER
F. C. McCordick, St. Catharines, Ont.
*Sadler & Haworth, Montreal, Que.
*The D. K. McLaren Belting Co., Ltd., Montreal, Que.
*The J. C. McLaren Belting Co., Ltd., Montreal, Que.
LADDERS
Stratford Mfg. Co., Ltd., Stratford, Ont.
LADDERS, step
*Otterville Mfg. Co., Ltd., Otterville, Ont.
LADLES, foundry
*Northern Crane Works, Ltd., Walkerville, Ont.
LAMP GLOBES
*Crouse-Hinds Co., Ltd., Toronto.
LARD
F. W. Fearman Co., Ltd., Hamilton, Ont.
LATH
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
LATHE CHUCKS
Ker & Goodwin, Brantford, Ont.
LATHE-DOGS
Canadian Billings & Spencer, Ltd., Welland, Ont.
LATHES
*Canada Machinery Corporation, Ltd., Galt, Ont.
LAUNCHES
Peterboro Canoe Co., Ltd., Peterboro, Ont.
LAWN MOWERS
Taylor-Forbes Co., Ltd., Guelph, Ont.
LAWN SWINGS
Stratford Mfg. Co., Ltd., Stratford, Ont.
LAVATORIES, enameled
Amherst Foundry Co., Ltd., Amherst, N.S.
LAUNDRY SINKS
Amherst Foundry Co., Ltd., Amherst, N.S.
LEAD
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
LEAD GRINDERS
Benjamin Moore & Co., Ltd., Toronto, Ont.
LEAD PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
*The Canada Metal Co., Toronto.
LEAD SHEET
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
LEATHER
The Robson Leather Co., Ltd., Oshawa, Ont.
LEATHER, bookbinders'
Clarke & Clarke, Ltd., Toronto.
LEATHER DASHES & FENDERS
*McKinnon Industries, Ltd., St. Catharines, Ont.
LEATHER, fancy
Clarke & Clarke, Ltd., Toronto.
LEATHER GOODS
Lamontagne, Ltd., Montreal, Que.
LEATHER, hemlock, union and oak sole
The Breithaupt Leather Co., Ltd., Kitchener, Ont.
LEATHER, patent colt and side leather
*A. R. Clarke & Co., Ltd., Toronto.
LEATHER, sheep skin, etc.
Clarke & Clarke, Ltd., Toronto.
LEATHER, upholstering
Clarke & Clarke, Ltd., Toronto.
LEATHER, upper
A. Davis & Son., Ltd., Kingston, Ont.
King Brothers Co., Ltd., Whitby, Ont.
LIGHTS, marine, side and port
*Crouse-Hinds Co., Ltd., Toronto.
LINK BELT, Ewart, and sawmill riveted
*Canadian Link-Belt Co., Toronto.
LINK BELTING
*The Dodge Mfg. Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
LINOLEUM
Dominion Oil Cloth Co., Ltd., Montreal, Que.
LITHOGRAPHED BUSINESS STATIONERY
Business Systems, Ltd., Toronto.
LITHOGRAPHERS
American Bank Note Co., Ottawa, Ont.
Harris Lithographing Co., Ltd., Toronto, Ont.
The Mortimer Co., Ltd., Ottawa, Ont.
LOCKERS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*Geo. B. Meadows, Wire, Iron and Brass Works Co., Toronto, Ont.
LOCOMOTIVE BLOCKS
Standard Clay Products, Ltd., St. Johns, Que.
LOCOMOTIVES, industrial
*Montreal Locomotive Works, Ltd., Montreal, Que.
LOCOMOTIVE & MARINE BRASS WORKS
The James Morrison Brass Mfg. Co., Ltd., Toronto.
LOGGING CHAIN HOOKS
*McKinnon Industries, Ltd., St. Catharines, Ont.
LOOSE LEAF BINDERS AND FORMS
Business Systems, Ltd., Toronto.
LOOSE LEAF SYSTEMS
Copeland - Chatterson Co., Ltd., Brampton, Ont.
Lowe-Martin Co., Ottawa, Ont.
LOOSE LEAF SUPPLIES
The Esdale Press, Ltd., Edmonton, Alta.
LUBRICATORS, steam sight feed
Penberthy Injector Co., Ltd., Windsor, Ont.
LUGS, for silos and water tanks
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
LUMBER
*Brown Corporation, La Tuque, Que.
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
G. & J. Esplen, Montreal, Que.
LUMBER, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

*For Display Advertisement see Index, Page 43

LUMBER, spruce and pine, cedar railway ties and shingles
Bathurst Lumber Co., Ltd., Bathurst, N.B.

LUMBERING BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.

LUMBER, red pine and spruce
Gillies Bros., Ltd., Braeside, Ont.

LUMBER, spruce, fir, larch and cedar
Fernie Lumber Co., Ltd., Fernie, B.C.

LUMBER, White pine
Gillies Bros., Ltd., Braeside, Ont.

MACHINE KNIVES
*Galt Knife Co., Ltd.
*E. C. Atkins & Co., Inc., Hamilton, Ont.
Henry Disston & Sons, Toronto.

MACHINE TOOLS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.

MACHINE WORK, special and repairs
*Canadian Rumely Co., Ltd., Toronto, Ont.
*The John Whitfield Co., Toronto.

MACHINERY AND UTENSILS FOR BAKERS
Fletcher Mfg. Co., Ltd., Toronto.

MACHINERY AND UTENSILS FOR CANDY
Fletcher Mfg. Co., Ltd., Toronto.

MACHINERY AND UTENSILS FOR ICE CREAM
Fletcher Mfg. Co., Ltd., Toronto.

MACHINERY, conveying
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

MACHINERY, flour mill
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

MACHINERY, grinding
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
J. & R. Weir, Montreal, Que.
*M. Beatty & Sons, Ltd., Welland.
*Northern Crane Works, Ltd., Walkerville, Ont.

MACHINERY, ice cream
J. J. McLaughlin, Ltd., Toronto.

MACHINERY, iron working
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.

MACHINERY, pulp mill
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

MACHINERY, punching and shearing
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.

MACHINERY, railroad and car-shop
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*John Bertram & Sons Co., Ltd., Dundas, Ont.

MACHINERY, roadmaking
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
Sawyer-Massey Co., Ltd., Hamilton, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

MACHINERY, sawmill
The E. Long Mfg. Co., Ltd., Orillia, Ont.
P. Payette & Co., Pentanguishene, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
*Yates, P. B., Machine Co., Ltd., Hamilton, Ont.

MACHINERY, sheet metal working
Brown, Boggs Co., Ltd., Hamilton, Ont.
*Canada Machinery Corporation, Ltd., Galt, Ont.

MACHINERY, special
Bawdon Machine Co., Ltd., Toronto.
*The John Whitfield Co., Toronto, Ont.

MACHINERY, transmission
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*Goldie & McCulloch Co., Ltd., Galt, Ont.

MACHINERY, woodworking
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Yates, P. B., Machine Co., Ltd., Hamilton, Ont.
Preston Woodworking Machinery Co., Ltd., Preston, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

MACHINE WORK, special and repairs
*Canadian Rumely Co., Ltd., Toronto, Ont.
*John Whitfield Co., Toronto, Ont.

MACHINE WRENCHES
*Canadian Billings & Spencer, Ltd., Welland, Ont.

MACHINES, painting
Spramotor Co., London, Ont.

MAGNESITE
Canadian Carbonate Co., Montreal, Que.

MALT
*Hiram Walker & Sons, Ltd., Walkerville, Ont.

MALLEABLE, for carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.

MALLEABLE IRON CASTINGS
*McKinnon Industries, Ltd., St. Catharines, Ont.
Galt Malleable Iron Co., Ltd., Galt, Ont.

MAPLE PRODUCTS
*Maples, Ltd., Toronto, Ont.

MARTINGALE RINGS AND SLIDE LOOPS
The Arlington Co. of Canada, Ltd., Toronto, Ont.

MATCHERS
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

MATCHES
*The E. B. Eddy Co., Ltd., Hull, Que.

MECHANICAL STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto.

MEDICINES, patented and pharmaceutical
Dr. Ed. Morin & Cie., Ltd., Quebec.

METAL, babbitt
*Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
Alonzo W. Spooner, Ltd., Port Hope, Ont.

METAL CEILINGS
*The Pedlar People, Ltd., Oshawa, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

METAL LATH
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.

METAL PACKING
*Garlock Packing Co., Hamilton, Ont.

METAL, spinning and stamping
The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.

METAL SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

METAL SHINGLES
*The Pedlar People, Ltd., Oshawa, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

METAL STAMPINGS
Canadian Cartridge Co., Ltd., Hamilton, Ont.

METERS, water
Canadian Cartridge Co., Ltd., Hamilton, Ont.

MILK DEALERS' MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.

MILLBOARD, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.

MILLING CUTTERS
Pratt & Whitney Co. of Canada, Dundas, Ont.

MINING MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.

MITTS AND GLOVES, Indian, tan, red deerskins
Holt, Renfrew, Ltd., Quebec, Que.
A. R. Clarke & Co., Ltd., Toronto.

MIXERS, chocolate, dough and paint
Fletcher Mfg. Co., Ltd., Toronto.

MOCCASINS AND SLIPPERS, Indian tanned leathers
Holt, Renfrew, Ltd., Quebec, Que.

MORTISERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

MOTOR CARS
*Ford Co. of Canada, Ford, Ont.

MOTORS, electric
*Canadian General Electric Co., Ltd., Toronto, Ont.

MOTORS, electric (alternating current)
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*T. & H. Electric Co., Hamilton, Ont.

MOTORS, electric (direct current)
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*T. & H. Electric Co., Hamilton.

MOTORS, electric (repairing)
Consolidated Electric Co., Ltd., Toronto, Ont.
*T. & H. Electric Co., Hamilton.

MOTORS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

MOULDERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

NAILS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.

NAILS, copper
Parmenter & Bullock Co., Ltd., Gananoque, Ont.

NAILS, wire
Parmenter & Bullock Co., Ltd., Gananoque, Ont.
The Graham Nail Works, Toronto.

NAPHTHA
*The Imperial Oil Co., Ltd., Toronto, Ont.

NECK YOKES
*McKinnon Industries, Ltd., St. Catharines, Ont.

NICKEL OXIDE
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
Coniagas Reduction Co., Ltd., St. Catharines, Ont.

NICKEL METAL
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.

NIPPLES, for radiators
*McKinnon Industries, Ltd., St. Catharines, Ont.

NUTS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*United Brass & Lead, Ltd., Toronto, Ont.

OAKUM, plumbers, Canadian Navy
Factory Waste & Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto, Ont.

OARLOCKS
*McKinnon Industries, Ltd., St. Catharines, Ont.

OAT CRUSHERS AND FLAKERS
J. Fleury's Sons, Aurora, Ont.

OFFICE DESKS
*Goderich Organ Co., Goderich, Ont.

OFFICE EQUIPMENT
Lowe-Martin Co., Ltd., Ottawa, Ont.
*Office Specialty Co., Newmarket, Ont.

OFFICE FURNITURE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

OILS
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal, Que.
Sherwin-Williams Co. of Canada, Ltd., Montreal, Que.

OIL FILTRATION AND CIRCULATING SYSTEMS
S. F. Bowser & Co., Toronto, Ont.

OIL STORAGE SYSTEMS, self-measuring
S. F. Bowser & Co., Toronto.

OIL COMPANIES
*Canadian Oil Cos., Toronto.
Commercial Oil Co., Ltd., Hamilton, Ont.
*Imperial Oil Co., Toronto.

OILS (petroleum products)
*British American Oil Co., Ltd., Toronto, Ont.
*Dominion Oil Co., Ltd., Hamilton, Ont.
*The Imperial Oil Co., Toronto.

OILS, road
*The Barrett Co., Ltd., Toronto and Montreal.

OIL HOLE COVERS
*Canadian Winkley Co., Ltd., Windsor, Ont.

OIL CUPS, both screw top and hinge lid
*Canadian Winkley Co., Ltd., Windsor, Ont.

OILCLOTHS, floor and table
Dominion Oil Cloth Co., Ltd., Montreal, Que.

ORGANS
*Goderich Organ Co., Goderich, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.

ORGANS, pipe
Casavant Freres, St. Hyacinthe, Que.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.

ORGANS, parlor
*Goderich Organ Co., Goderich, Ont.

ORNAMENTAL IRON WORK
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*The Geo. B. Meadows, Toronto Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.

OVERALLS
Peerless Overall Co., Rock Island, Que.
Walker Pant & Shirt Co., Walkerville and Chatham, Ont.
The Standard Shirt Co., Ltd., Montreal, Que.

OVERCOATINGS
Rosamond Woollen Co., Almonte, Ont.

OVERHEAD RUNWAYS
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Richards-Wilcox Canadian Co., Ltd., London, Ont.

OXY-ACETYLENE WELDING
*L'Air Liquide Society, Montreal, Que.
*The Prest-O-Lite Co., Inc., Toronto.

OXYGEN
*L'Air Liquide Society, Montreal, Que.

PACKING BOXES
Barchard & Co., Ltd., Toronto.

PACKING, engine
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Garlock Packing Co., Hamilton, Ont.

PACKING, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Jenkins Bros., Ltd., Montreal, Que.

*For Display Advertisement see Index, Page 43

PAILS AND TUBS, wooden
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
PAINTERS' SUPPLIES
A. Muirhead Co., Ltd., Toronto.
PAINTS
R. C. Jamieson & Co., Ltd., Montreal, Que.
PAINTS AND VARNISHES
A. Muirhead Co., Ltd., Toronto.
Benjamin Moore & Co., Ltd., Toronto, Ont.
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
The Staneland Co., Ltd., Victoria, B.C.
A. Ramsay & Sons Co., Montreal, Que.
Standard Paint Co. of Canada, Ltd., Montreal, Que.
PAINTS, barn and bridge
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
PAINTS, preservative
Standard Paint Co. of Canada, Ltd., Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.
PANELBOARDS
*Crouse-Hinds Co., Ltd., Toronto.
PAPER, book
Barber Paper & Coating Mills, Ltd., Georgetown, Ont.
PAPER BOXES
King Paper Box Co., Ltd., Montreal, Que.
*Rudd Paper Box Co., Ltd., Toronto, Ont.
PAPER, coated, book and label
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, coated box board
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, coated cover
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, envelope
*Provincial Paper Mills, Ltd., Georgetown, Ont.
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPER, enamelled blotting
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, label
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, ledger
*Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPERBOARDS
*Canada Boxboard Co., Ltd., Montreal, Que.
PAPER, super-book
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPER, wall
Stauntons, Ltd., Toronto.
PAPER, waxed
Business Systems, Ltd., Toronto.
PAPER, writing
The Toronto Paper Mfg. Co., Cornwall, Ont.
Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
PAPERS, bond
*Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
PAPERS, building
Bathurst Lumber Co., Ltd., Bathurst, N.B.
*The Riordon Pulp & Paper Co., Montreal, Que.
Standard Paint Co. of Canada, Ltd., Montreal, Que.
PARK SEATS
Stratford Mfg. Co., Ltd., Stratford, Ont.
PARLOR SUNDRIES
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
PATENTS
Fetherstonhaugh & Co., Toronto.
Ridout & Maybee, Toronto, Ont.
*Harold C. Shipman & Co., Ottawa, Ont.
PATENT LITIGATION
Ridout & Maybee, Toronto, Ont.
*Harold C. Shipman & Co., Ottawa, Ont.
PATTERN MAKERS' BRASS DOWEL PINS
*Canadian Winkley Co., Ltd., Windsor, Ont.
PAY ROLL AUDITS
*International Business Machines, Ltd., Toronto, Ont.
PERFORATED METALS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
PERFORATED MUSIC ROLLS
The Otto Higel Co., Ltd., Toronto.
PERFUMES AND TOILET PREPARATIONS
Sovereign Perfumes, Ltd., Toronto.
PETROLEUM PRODUCTS
*The Imperial Oil Co., Ltd., Toronto, Ont.
PHOTO MAILERS
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
PIANOS
Dominion Organ & Piano Co., Ltd., Bowmanville, Ont.
*Gourlay, Winter & Leeming, Toronto, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIANO ACTIONS
The Otto Higel Co., Ltd., Toronto.
PIANO KEYS
The Otto Higel Co., Ltd., Toronto.
PIANOS, player
*Gourlay, Winter & Leeming, Toronto, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIANO, player actions
The Otto Higel Co., Ltd., Toronto.
PIANO STOOLS AND BENCHES
*Goderich Organ Co., Goderich, Ont.
PIG IRON
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
M. A. Hanna & Co., Toronto.
PINS, society, emblems and badges
Caron Bros., Montreal, Que.
PIPE, cast iron, for water and gas
National Iron Works, Ltd., Toronto, Ont.
PIPE COUPLINGS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
PIPE COVERINGS
*Eureka Mineral Wood & Asbestos Co., Toronto, Ont.
PIPE ORGANS
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIPES, culvert
Standard Clay Products, Ltd., St. John's, Que.
*The Pedlar People, Ltd., Oshawa, Ont.
PIPE AND NIPPLES, black and galvanized
*Canadian Tube & Iron Co., Ltd., Montreal, Que.
PIPE, sewer
Hamilton & Toronto Sewer Pipe Co., Ltd., Hamilton, Ont.
Standard Clay Products, Ltd., St. John's, Que.
PIPE, soil and fittings
Anthes Foundry, Ltd., Toronto and Winnipeg.
Warden King Ltd., Montreal, Que.
PIPE AND TUBES, wrought
*Page-Hersey Iron Tube & Lead Co., Ltd., Toronto, Ont.
PISTON RODS
*The Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.
PLANERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
PLANING MILLS
G. & J. Esplen, Montreal, Que.
PLASTERING TROWELS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
PLOWS
J. Fleury's Sons, Aurora, Ont.
PLUGS
*Crouse-Hinds Co., Ltd., Toronto.
PLUMBAGO, CRUCIBLES AND STOPPER HEADS
Dominion Crucible Co., Ltd., Montreal, Que.
PLUMBERS' SUPPLIES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
PLUMBING APPLIANCES
Standard Sanitary Mfg. Co., Ltd., Toronto, Ont.
PLUMBING SUPPLIES
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
PNEUMATIC DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
PNEUMATIC MACHINERY
*Canadian Ingersoll-Rand Co., Sherbrooke, P.Q.
POLE LINE MATERIAL (wooden insulator top pins, side blocks, pole steps, cross arms)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.
POLES, flag
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
POLES, telegraph and telephone, cedar
Fernie Lumber Co., Ltd., Fernie, B.C.
PORK PACKERS AND CHEESE EXPORTERS
The Ingersoll Packing Co., Ltd., Ingersoll, Ont.
POSTS, split cedar fence
Fernie Lumber Co., Ltd., Fernie, B.C.
POULTRY SUPPLIES AND MEDICINES
Lee Mfg. Co., Ltd., Pembroke, Ont.
POWDER, blasting
Canadian Explosives, Ltd., Montreal, Que.
POWER PRESSES
Hydraulic Machinery Co., Ltd., Montreal, Que.
*William R. Perrin, Ltd., Toronto.
PRESERVATIVE PAINT
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
PRESSES, baling and filter
*William R. Perrin, Ltd., Toronto.
PRESSES, hydraulic
Hydraulic Machinery Co., Ltd., Montreal, Que.
PRESSES, sheet metal stamping
Brown, Boggs Co., Ltd., Hamilton, Ont.
*Canada Machinery Corporation, Ltd., Galt, Ont.
PRESSES, veneer
*Canada Machinery Corporation, Ltd., Galt, Ont.
PRESSED STEEL AND BRASS GREASE CUPS
*Canadian Winkley Co., Ltd., Windsor, Ont.
Hydraulic Machinery Co., Ltd., Montreal, Que.
*William R. Perrin, Ltd., Toronto.
PRINTERS
Rous & Mann, Ltd., Toronto, Ont.
The Mortimer Co., Ltd., Ottawa, Ont.
PRINTING AND LITHOGRAPHING
Lawson & Jones, Ltd., London, Ont.
PULLEYS
Bond Engineering Co., Toronto.
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
PULLEYS, wood split
*Bernard Industrial Co., Fortierville, P.Q.
PULP, bleached sulphite
The Edward Partington Pulp & Paper Co., St. John, N.B.
Riordan Sales Co., Ltd., Montreal, Que.
PULP, unbleached sulphite
Riordan Sales Co., Ltd., Montreal,
PULP, sulphate and sulphite
Bathurst Lumber Co., Ltd., Bathurst, N.B.
PULP
*Brown Corporation, La Tuque, Que.
PUMPS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Bawden Machine Co., Ltd., Toronto, Ont.
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
Spramotor Co., London, Ont.
PUMPS, boiler feed
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Bawden Machine Co., Ltd., Toronto, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
PUMPS, centrifugal
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
PUMPS, turbine and reciprocating
*Bawden Machine Co., Ltd., Toronto, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
PUNCHES
*John Whitfield Co.,Toronto, Ont.
*Pratt & Whitney Co., Dundas,Ont.
PYROMETERS
*Canadian Hoskins Co., Walkerville, Ont.
RADIATORS
Taylor-Forbes Co., Ltd., Guelph, Ont.
Warden King, Ltd., Montreal, Que.
RAILINGS, brass and iron
*Dennis Wire & Iron Works Co., London, Ont.
RAILS, light
Hammant Steel Car & Engineering Works, Hamilton, Ont.
RAILWAY SIGNAL APPLIANCES
General Railway Signal Co. of Canada, Ltd., Montreal, Que.
RAILWAY SUPPLIES
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
B. J. Coghlin Co., Ltd., Montreal, Que.
RAILWAY TARIFF BINDERS
The Esdale Press, Ltd., Edmonton, Alta.
READY-TO-WEAR GARMENTS, ladies'
H. C. Boulter Co., Ltd., Toronto.
REAMERS
*Pratt & Whitney Co., Dundas, Ont.
*Butterfield & Co., Rock Island, P.Q.
RECEPTACLES
*Crouse-Hinds Co., Ltd., Toronto.
REED AND RATTAN GOODS
Canada Furniture Mfgs., Ltd., Woodstock, Ont.
REFRIGERATORS
Sanderson-Harold Co., Ltd., Paris, Ont.
Lee Mfg. Co., Ltd., Pembroke, Ont.
REFRIGERATING MACHINERY
The Linde Canadian Refrigeration Co., Ltd., Montreal, Que.
REFRIGERATORS, store, homes and institutions
Ham & Nott Co., Ltd., Brantford, Ont.
John Hillock & Co., Ltd., Toronto.
REINFORCEMENT BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Trussed Concrete Steel Co., Ltd., Walkerville, Ont.
REINFORCEMENT FOR CONCRETE
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
REINFORCEMENT FOR CONCRETE ROOFING, metal
*The Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co., Ltd., Walkerville, Ont.
REVOLVING DOORS
*A. B. Ormsby Co., Ltd., Toronto.
RINGS, gold
Caron Bros., Montreal, Que.
RIVETERS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
RIVETS
*Canadian Tube & Iron Co., Ltd., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal.
RIVETS, bifurcated and tubular
Parmenter & Bullock Co., Ltd., Gananoque, Ont.

*For Display Advertisement see Index, Page 43

RIVETS AND BURRS, iron, copper and brass
Parmenter & Bullock Co., Ltd., Gananoque, Ont.
ROCK DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
ROLLING STEEL DOORS
*A. B. Ormsby Co., Ltd., Toronto.
ROLL PRINTING
*Autographic Register Co., Ltd., Montreal, Que.
Business Systems, Ltd., Toronto.
ROOFING, metal
*A. B. Ormsby Co., Ltd., Toronto.
ROOFING, ready to lay
Standard Paint Co. of Canada, Ltd., Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.
ROOF TRUSSES
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal, Que.
ROPE
*Doon Twines, Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.
ROPE, cotton
Hamilton Cotton Co., Hamilton, Ont.
RUBBER FOOTWEAR
Ames Holden, McCready, Ltd., Montreal, Que.
*Gutta Percha & Rubber Ltd., Toronto, Ont.
The Miner Rubber Co., Ltd., Grandy, Que.
RUBBER GOODS
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Limited, Toronto.
RUBBER MOULDS
Bawden Machine Co., Ltd., Toronto, Ont.
RUBBER PACKING
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Garlock Packing Co., Hamilton, Ont.
RULES
The Lufkin Rule Co. of Canada, Ltd., Windsor, Ont.
SADDLERY HARDWARE
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McMinnon Industries, Ltd., St. Catharines, Ont.
SAFES
*Goldie & McCulloch Co., Ltd., Galt, Ont.
J. & J. Taylor, Ltd., Toronto.
SAMPLE CASES
The M. Langmuir Mfg. Co., of Toronto, Ltd., Toronto, Ont.
J. Eveleigh & Co., Ltd., Montreal, Que.
SAND RAMMERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
SANDPAPER
*Delaney & Pettit, Ltd., Toronto.
SASH CORD, cotton
Hamilton Cotton Co., Hamilton, Ont.
SALT
Canadian Salt Co., Ltd., Windsor, Ont.
*Dominion Salt Co., Ltd., Sarnia, Ont.
SANITARY PAPER TOWELS
*E. B. Eddy Co., Ltd., Hull, Que.
SAW SHARPENING MACHINERY
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
SAWS
*E. C. Atkins & Co., Ltd., Hamilton, Ont.
Henry Disston & Sons, Ltd., Toronto, Ont.
Shurly & Deitrich, Galt, Ont.
SAWS, cross-cut and band
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.
SAWS, circular mill
Shurly & Deitrich, Galt, Ont.
SAWS, hack
*Victor Saw Works, Ltd., Hamilton, Ont.
SAWS, of all kinds
Simonds Canada Saw Co., Ltd., Montreal, Que.
SAWS, rip
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.
SAWMILLS
G. & J. Esplen, Montreal, Que.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
SAW MILL MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
SAWS, specialties
*Victor Saw Works, Ltd., Hamilton, Ont.
SCALES
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton, Ont.
SCALES, counter
The Gurney Scale Co., Hamilton, Ont.
SCALES, railway track, etc.
The Gurney Scale Co., Hamilton, Ont.
SCREENS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
SCREEN DOORS AND WINDOWS
Sanderson-Harold Co., Ltd., Paris, Ont.
Ham & Nott Co., Ltd., Brantford, Ont.
SCREWS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal, Que.
SCREW PLATES
*Butterfield & Co., Rock Island, P.Q.
SECURITIES, engraved
American Bank Note Co., Ottawa, Ont.
SERGES
Rosamond Woollen Co., Almonte, Ont.
SHAFTING
Canada Forge Co., Ltd., Welland, Ont.
Bond Engineering Co., Toronto.
*Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.
*Dodge Mfg. Co., Ltd., Toronto.
SHANTY BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
SHAPERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
SHEAR BLADES, iron
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Ltd., Galt, Ont.
SHEATHING
*The Barrett Co., Ltd., Toronto and Montreal.
SHEATHING, asbestos corrugated
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.
SHEET METAL STAMPINGS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.
*W. H. Banfield & Sons, Ltd., Toronto, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
SHEETS, Etc.
*Tallhan Brass & Metal Co., Hamilton, Ont.
SHEETS, galvanized
*Dominion Sheet Metal Co., Ltd., Hamilton, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.
SHINGLES
Bathurst Lumber Co., Ltd., Bathurst, N.B.
SHINGLE SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
SHIP BUILDERS
J. & R. Weir, Montreal, Que.
SHIRTS
John W. Peck & Co., Ltd., Montreal, Que.
SHIRTS, workmen's
*A. R. Clarke & Co., Ltd., Toronto.
SHOE PEGWOOD
O. Chalifour, Quebec, Que.
SHOE LININGS
Galt Knitting Co., Ltd., Galt, Ont.
SHOES, running and athletic
Ames - Holden - McCready, Ltd., Montreal, Que.
SHOOKS
Barchard & Co., Ltd., Montreal.
SIGNAL CELLS
Canadian National Carbon Co., Ltd., Toronto.
SILENT CHAIN DRIVES
*Canadian Link-Belt Co., Toronto.
SILVER BULLION
Coniagas Reduction Co., Ltd., St. Catharines, Ont.
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
SILVERSMITH
Canadian Wm. A. Rogers, Ltd., Toronto, Ont.
Standard Silver Co., Toronto, Ont.
SILVERWARE, sterling
Roden Bros., Ltd., Toronto, Ont.
SINGLETREES
*McKinnon Industries, Ltd., St. Catharines, Ont.
SINKS, enamelled
Amherst Foundry Co., Ltd., Amherst, N.S.
SKATES, figure
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, genuine Acme
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, hockey
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, ice
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKIFFS
Peterboro Canoe Co., Ltd., Peterboro, Ont.
SKYLIGHTS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People, Ltd., Oshawa, Ont.
SLEIGHS
Tudhope-Anderson Co., Ltd., Orillia, Ont.
SLIPPERS
Ames - Holden - McCready, Ltd., Montreal, Que.
SLOTTERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
SMALL METAL STAMPINGS, in quantities
*Canadian Winkley Co., Ltd., Windsor, Ont.
SMOKE CONSUMERS
*The Jones Underfeed Stoker Co., Ltd., Toronto, Ont.
SMOKE-STACKS
*Steel Trough & Machine Co., Ltd., Tweed, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
SNAPS, for harness
*McKinnon Industries, Ltd., St. Catharines, Ont.
SOAPS
J. Barsalou & Co., Ltd., Montreal.
SOAP (soft, oil)
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
Sherwin-Williams Co. of Canada, Ltd., Montreal, Que.
SOCKETS
*Crouse-Hinds Co., Ltd., Toronto.
SODA WATER FOUNTAINS
J. J. McLaughlin, Ltd., Toronto.
SODA WATER FOUNTAINS AND ACCESSORIES
Fletcher Mfg. Co., Ltd., Toronto.
SOIL PIPE
Anthes Foundry, Ltd., Toronto.
SOLDER
Alonzo W. Spooner, Ltd., Port Hope, Ont.
*Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
SOLDER, silver
Geo. H. Lees & Co., Hamilton, Ont.
SOLDER, wire and bar
*American Can Co., Montreal, and Hamilton.
SOLDERING IRONS AND COPPERS
Brown, Boggs Co., Ltd., Hamilton,
SNOWSHOES
Holt, Renfrew, Ltd., Quebec, Que.
SPECIAL MACHINERY
*Globe Engineering Co., Ltd., Hamilton, Ont.
SPELTER
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
SPIKES, railway and marine
Starr Mfg. Co., Ltd., Dartmouth, N.S.
SPINNING AND STAMPING
Tallman Brass & Metal, Ltd., Hamilton, Ont.
SPIRAL CONVEYORS
*Canadian Mathews Gravity Carrier Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
SPLIT PEAS
H. Murton, Ltd., Guelph, Ont.
SPIRITS
*Hiram Walker & Sons, Ltd., Walkerville, Ont.
SPOOLS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
SPORTING MEDALS AND TROPHIES
Roden Bros., Ltd., Toronto, Ont.
SPRAYERS
Spramotor Co., London, Ont.
SPRING COTTERS
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
SPRINGS
*Canadian Steel Foundries, Ltd., Montreal, Que.
B. J. Coghlin Co., Ltd., Montreal.
Guelph Spring & Axle Co., Ltd., Guelph, Ont.
SPRINGS, carriage and automobile
Guelph Spring & Axle Co., Ltd.,
SPRING SHACKLE BOLTS
*Canadian Winkley Co., Ltd., Windsor, Ont.
John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy, Mansell, Ltd., Toronto.
*Vogel Co. of Canada, Ltd., Montreal, Que.
SPROCKET WHEELS
*Canadian Link Belt Co., Ltd., Toronto, Ont.
STAINS
R. C. Jamieson & Co., Ltd., Montreal, Que.
STAINS, creosote shingle
A. Muirhead Co., Ltd., Toronto.
STAMPINGS
*Dominion Forge & Stamping Co., Ltd., Walkerville, Ont.
*Wentworth Mfg. Co., Hamilton.
STAMPINGS, heavy steel
Canadian Cartridge Co., Ltd., Hamilton, Ont.
STAMPS, steel, brass and rubber
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
STAMP MILLS
*Jenckes Machine Co., Sherbrooke, P.Q.
STATIONERY, office
Harris Lithographing Co., Toronto.
STEAM PIPE AND BOILER COVERINGS, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.
STEAM SHOVELS
*M. Beatty & Sons, Ltd., Welland, Ont.
STEAM SPECIALTIES
*C. A. Dunham Co., Ltd., Toronto.
*Darling Bros., Ltd., Montreal, Que.
*Sheldons, Ltd., Galt, Ont.
STEAM TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Mfg. Co., Ltd., Woodstock, Ont.
STEEL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
STEEL BILLETS AND BLOOMS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
STEEL BUILDINGS
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal, Que.

*For Display Advertisement see Index Page 43

*McGregor & McIntyre, Ltd., Toronto, Ont.
*Mackinnon, Holmes & Co., Ltd., Sherbrooke, P.Q.
*The Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL CABINETS
J. & J. Taylor, Ltd., Toronto, Ont.

STEEL CASTINGS
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton, Ont.

STEEL DOORS, rolling
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL FILING EQUIPMENT
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

STEEL PLATE WORK
*Mackinnon, Holmes & Co., Ltd., Sherbrooke, P.Q.
*Toronto Iron Works, Ltd., Toronto.

STEEL RODS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.

STEEL SASH
*Dennis Wire & Iron Works Co., London, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL SHELVING
*Dennis Wire & Iron Works Co., London, Ont.

STEEL WIRE RODS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.

STEEL WAGON HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.

STELLITE
*Deloro Smelting & Refining Co., Ltd., Deloro and Toronto.

STENCILS, brass
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

STEPS, for buggies and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.

STEREOTYPING
Central Press Agency, Toronto.

STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto, Ont.

STOOLS AND BENCHES, piano and organ
*Otterville Mfg. Co., Ltd., Otterville, Ont.

STOOLS, steel factory
*Steel Trough & Machine Co., Ltd., Tweed, Ont.

STONE
The Hagersville Contracting Co., Hagersville, Ont.

STONEWARE
*Jas. W. Foley & Co., St. John, N.B.

STORAGE BATTERIES
*Canadian General Electric Co., Ltd., Toronto, Ont.

STORE FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.

STOVES
Smith Foundry Co., Ltd., Fredericton, N.B.
Tudhope - Anderson Co., Ltd., Orillia, Ont.

STOVE LININGS
Standard Clay Products, Ltd., St. John's Que.

STOVES AND RANGES
Lee Mfg. Co., Ltd., Pembroke, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
McClary Mfg. Co., London, Ont.

STRAWS, paper drinking
Fletcher Mfg. Co., Ltd., Toronto.

STRAWBOARD
*Canada Boxboard Co., Ltd., Montreal, Que.

STREET LIGHTING FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.

STRETCHERS, lace curtain
*Otterville Mfg. Co., Ltd., Otterville, Ont.

STRUCTURAL STEEL
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Dominion Bridge Co., Montreal.
*Hamilton Bridge Works Co., Ltd., Hamilton, Ont.
*Manitoba Bridge & Iron Works, Ltd., Winnipeg, Man.
*McGregor & McIntyre, Ltd., Toronto, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*The Canadian Bridge Co., Ltd., Walkerville, Ont.

STUMP EXTRACTORS
*The John Whitfield Co., Toronto.

SUIT CASES
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto, Ont.

SUPPLY DEALERS
*The Foundation Co., Ltd., Montreal, Que.

SURFACERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

SWITCHBOARDS
*Canadian General Electric Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.

SWITCHES
*Crouse-Hinds Co., Ltd., Toronto.

SWITCHES, railway
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.

SWITCHES AND FROGS
*Canadian Steel Foundries, Ltd., Montreal, Que.

SWITCH STANDS
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.

TABLE COVERS, chenille
Hamilton Cotton Co., Hamilton, Ont.

TANKS
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*Toronto Iron Works, Ltd., Toronto.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

TANKS, steel storage
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Steel Trough & Machine Co., Ltd., Tweed, Ont.

TANNERS' SUPPLIES
McClary Mfg. Co., London, Ont.

TAPS
*Butterfield & Co., Rock Island, P.Q.
*Pratt & Whitney Co., Dundas, Ont.

TAPES, measuring
The Lufkin Rule Co. of Canada, Ltd., Windsor, Ont.

TELEPHONE ACCESSORIES
*Canadian Independent Telephone Co., Toronto, Ont.
*Northern Electric Co., Ltd., Montreal, Que.

TENTS
Turner, J. J., & Sons, Peterboro, Ont.
*Scythes & Co., Ltd., Toronto, Ont.

TERMINALS, electric cable
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

TERRA ALBA
*Albert Mfg. Co., Hillsborough, N.B.

TERRA COTTA, architectural
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.

TEXTILE SUPPLIES (shuttles, bobbins, spools and picker sticks)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.

THUMB SCREWS
*Canadian Billings & Spencer, Ltd., Welland Ont.

TIE TAMPERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

TIE PLATES, for railways
*McKinnon Industries, Ltd., St. Catharines, Ont.

TILING, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Ltd., Toronto, Ont.

TIME RECORDERS
*International Business Machines Co., Ltd., Toronto, Ont.

TINWARE, lithographed
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

TIRES, bicycle, auto, carriage, truck, motorcycle.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Ltd., Toronto, Ont.

TOOLS
*The John Whitfield Co., Toronto,

TOOLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

TOOLS, track
B. J. Coghlin Co., Ltd., Hamilton.

TOOLS, sheet metal workers'
Brown, Boggs Co., Ltd., Hamilton.

TRACK, steel, portable
Hammant Steel Car & Engineering Works, Hamilton, Ont.

TRADE MARKS AND DESIGNS
Ridout & Maybee, Toronto, Ont.

TRANSFORMERS
*Canadian General Electric Co., Ltd., Toronto, Ont.
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.

TRANSLATIONS INTO FRENCH
Raoul Renault, Quebec City.

TRANSMISSION MACHINERY
Bond Engineering Co., Toronto.
*Canadian Link Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Mfg. Co., Woodstock, Ont.

TROLLEYS
*Richard-Wilcox Canadian Co., Ltd., London, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.

TRUCKS
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton.
*Northern Crane Works, Ltd., Walkerville, Ont.

TRUCKS, brick, tile and lumber
*Waterous Engine Works Co., Ltd., Brantford, Ont.

TRUCKS, motor
*National Steel Car Co., Ltd., Hamilton, Ont.

TRUCKS, warehouse and factory
The W. S. Mahaffy Co., Toronto.

TRUCKS, steel, forge and foundry
Hammant Steel Car & Engineering Works, Hamilton, Ont.

TRUCKS FOR OFFICE AND VAULT USE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

TRUNKS
Lamontagne, Ltd., Montreal, Que.
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto.

TUBING, brass and copper
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
Canadian Seamless Wire Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Co., Ltd., Montreal, Que.

TUBING, gold and silver
Canadian Seamless Wire Co., Toronto, Ont.

TUBES, ice cream
Fletcher Mfg. Co., Ltd., Toronto.

TUMBLERS, foundry
*Northern Crane Works, Ltd., Walkerville, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

TURBINES, steam
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines.

TURBINE PUMPS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

TURPENTINE
*Brown Corporation, La Tuque, Que.

TWEEDS
Rosamond Woollen Co., Almonte, Ont.

TWINES
*Doon Twines, Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.

TWINES, binder
Brantford Cordage Co., Ltd., Brantford, Ont.

TWINES, cotton
Hamilton Cotton Co., Hamilton, Ont.

TWIST DRILLS
*John Morrow Screw & Nut Co., Ltd., Ingersoll.
*Pratt & Whitney Co. of Canada, Dundas, Ont.
*The Wilt Twist Drill Co., Ltd., Walkerville, Ont.

UNDERWEAR
Galt Knitting Co., Ltd., Galt, Ont.

UNDERWEAR, imperial
Kingston Hosiery Co., Ltd., Kingston, Ont.

UNIONS
*Dart Union Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.

UPHOLSTERED FURNITURE, leather and tapestries
Imperial Rattan Co., Ltd.

VALVES
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Jenkins Bros., Ltd., Montreal, Que.
*Kerr Engine Co., Ltd., Walkerville, Ont.
T. McAvity & Sons, Ltd., St. John, N.B.
*Penberthy Injector Co., Ltd., Windsor, Ont.

VALVES, for steam and water
*Jenkins Bros., Ltd., Montreal.
*Mueller Mfg. Co., Ltd., Sarnia, Ont.
*Penberthy Injector Co., Ltd., Windsor, Ont.
James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.

VALVES, pressure reducing
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

VALVES, regrinding globe, angle, cross checks, swing checks
*Mueller Mfg. Co., Ltd., Sarnia,
Penberthy Injector Co., Ltd., Windsor, Ont.

VALVES, regulating
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

VALVES, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.

VARNISHES
*Ault & Wiborg Co. of Canada, Ltd., Toronto, Ont.
Berry Bros., Walkerville, Ont.
R. C. Jamieson & Co., Ltd., Montreal, Que.

VAULT FITTINGS, steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

VAULTS AND VAULT DOORS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
J. & J. Taylor, Ltd., Toronto, Ont.

VENTILATING APPLIANCES
*Sheldons, Ltd., Galt, Ont.

VENTILATING SYSTEMS
Gurney Foundry Co., Ltd., Toronto, Ont.

VENTILATORS
*A. B. Ormsby, Ltd., Toronto, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.

VOLTMETERS AND AMMETERS
*Crouse-Hinds Co., Ltd., Toronto.

WAGONS
Tudhope Anderson Co., Ltd., Orillia, Ont.

WAGON HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.

WALL COPING
Standard Clay Products, Ltd., St. John's, Que.

WASHERS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*United Brass & Lead, Ltd., Toronto, Ont.

WASHERS, plate or wrought
London Rolling Mill Co., Ltd., London, Ont.

WASTES, wool and cotton
Factory Waste & Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto, Ont.

WATERPROOF, cement coating
Benjamin Moore & Co., Ltd., Toronto, Ont.
*The Barrett Co., Ltd., Toronto and Montreal.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.

***For Display Advertisement see Index, Page 43**

WATER WHEELS
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
WEBBING, elastic
Hamilton Cotton Co., Hamilton, Ont.
WEBBING, non-elastic
Hamilton Cotton Co., Hamilton, Ont.
WELDING APPARATUS AND MATERIALS
*The Presto-O-Lite Co., Toronto.
WELL-DIGGING TOOLS AND MACHINERY
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
WHEEL FLANGES
*McKinnon Industries, Ltd., St. Catharines, Ont.
WHEELS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
WHEELS, corundum
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
WHEELS, emery
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
WELL DRILLING TOOLS AND MACHINERY
Oil Well Supply Co., Ltd., Petrolia, Ont.
WHIPS AND LASHES
Lay Whip Co., Rock Island, Que.
WHIPSOCKETS
*McKinnon Industries, Ltd., St. Catharines, Ont.
WHITE ARSENIC
Coniagas Reduction Co., Ltd., St. Catharines, Ont.

WHITE LEAD
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal.
WINDMILLS
*Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*Medicine Hat Pump & Brass Mfg. Co., Medicine Hat, Alta.
WINDOW SHADES
Daly & Morin, Montreal, Que.
WIRE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
The Graham Nail Works, Toronto.
WIRE BALE TIES
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.
WIRE CLOTH
*Canada Wire & Iron Goods Co., Hamilton, Ont.
C. H. Johnston & Sons, Ltd., Montreal, Que.
WIRE, feeder and trolley
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE GUARDS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
C. H. Johnston & Sons, Ltd., Montreal, Que.

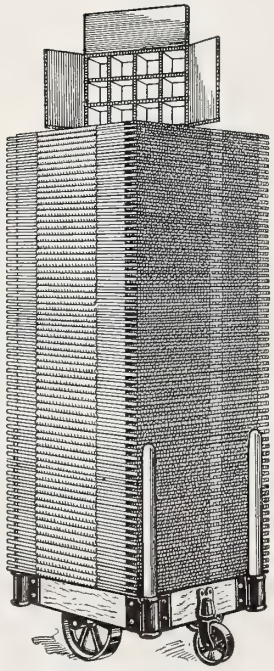
WIRE, insulated electric
*Northern Electric Co., Ltd., Montreal, Que.
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE, weatherproof
*Northern Electric Co., Ltd., Montreal, Que.
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE ROPE
*Dominion Wire Rope Co., Ltd., Montreal, Que.
*The B. Greening Wire Co., Ltd., Hamilton, Ont.
WIRE WORK
C. H. Johnson & Sons, Ltd., Montreal, Que.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*The Geo. B. Meadows, Toronto Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
WIRING DEVICES
*Crouse-Hinds Co., Ltd., Toronto.
WOOD
Standard Fuel Co., Toronto, Ont.
WOOD BORERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
WOOD PRINTERS
Barchard & Co., Ltd., Toronto.

WOOD PULP, mechanical
La Cie de Pulpe de Chicoutimi, Chicoutimi, Que.
WOODBOARD
*Canada Boxboard Co., Ltd., Montreal, Que.
WOOD SHOP, general work
*Canadian Rumely Co., Ltd., Toronto, Ont.
WOOD SPLIT PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
WOOD STAVE PIPE
T. A. Morrison & Co., Montreal.
WOOL
*H. V. Andrews, Toronto, Ont.
WOOD TURNING
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
WORSTED COATINGS AND SUITINGS
Rosamond Woollen Co., Almonte, Ont.
WRAPPERS, book, bottle, etc.
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
WRENCHES
*McKinnon Industries, Ltd., St. Catharines, Ont.
WROUGHT IRON PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
WROUGHT PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
YARNS, cotton
Hamilton Cotton Co., Hamilton, Ont.
ZINC, electrical
*The Canada Metal Co., Toronto.

*For Display Advertisement see Index, Page 43



Pioneer Manufacturers of Machine Knives and Metal Cutting Shear Blades in Canada.
THE PETER HAY KNIFE CO., LIMITED
GALT, ONTARIO



OUR SPECIALTY
FOLDING CELLBOARD
FREIGHT BOXES

ADAMS CELLBOARD COMPANY

MANUFACTURERS OF

SHIPPING CONTAINERS AND CORRUGATED PAPER

IMPORTERS OF

GUM SODA AND SEALING TAPES

We desire to have your samples or measurements to quote on when you are considering placing an order.

5 TO 21 DEFRIES STREET
AND DON ESPLANADE
TORONTO

Vol. XX., No. 5 TORONTO, SEPT., 1919 $2.00 per Year

INDUSTRIAL CANADA

Advertising and Reserves

LORD LEVERHULME'S VIEWS

Lord Leverhulme writes in the *London Daily News:* "I hold strongly that the best investment for surplus profits is to expend them on judicious advertising, wisely and carefully planned, and executed with originality and forcefulness. These same surplus profits invested wisely in advertising then become a real 'gilt-edged' security, and a solid reserve of strength to meet days of difficulty, and to overcome quietly, but irresistibly and surely, the most frenzied of competition, and the business, thus provided with reserve strength, stands four-square to meet and overcome every attack."

J. J. GIBBONS, LIMITED

General Advertising Agents

MONTREAL TORONTO WINNIPEG

Cables--Gibjay, Toronto Codes--ABC, 5th Edition

PUBLISHED BY THE CANADIAN MANUFACTURERS ASSOCIATION INCORPORATED.

HEAD OFFICE TORONTO · BRANCH OFFICES, MONTREAL, HAMILTON, WINNIPEG, VANCOUVER, HALIFAX, QUEBEC.

STEEL PLATE CONSTRUCTION

Oil Storage, Gasoline Tanks, Air Receivers, Pneumatic Water Supply Tanks, Smoke Stacks, Boiler Breeching, Riveted Steel Pipe, Bins and Hoppers. Heavy and light steel plate construction erected anywhere.

We Invite Your Inquiry

THE
TORONTO IRON WORKS
LIMITED

HEAD OFFICE: ROYAL BANK BLDG. TORONTO WORKS: CHERRY STREET

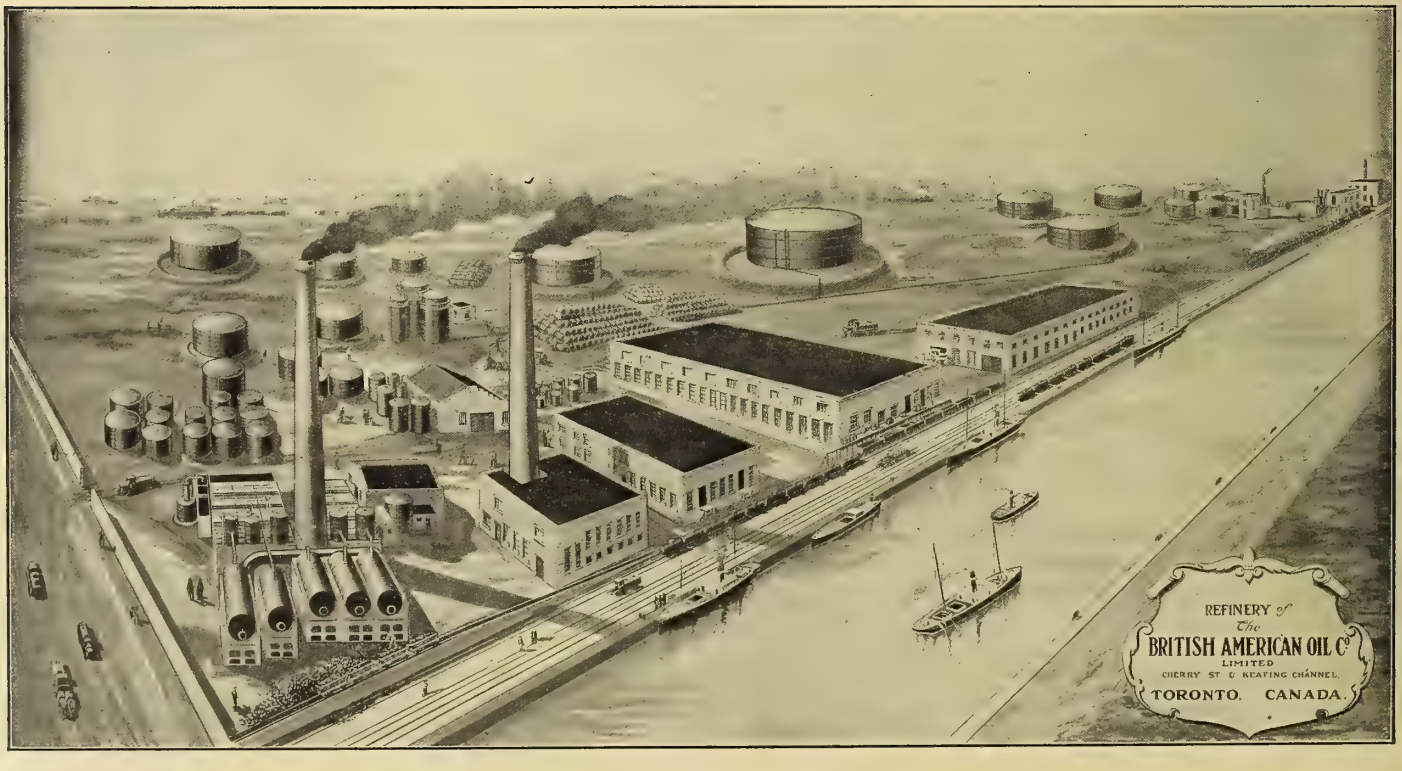
GALT KNIFE CO. LTD.

QUALITY FIRST

GALT KNIFE CO., LIMITED

GALT - - - ONTARIO

THE BRITISH AMERICAN OIL CO., LIMITED



Head Office: ROYAL BANK BUILDING, TORONTO

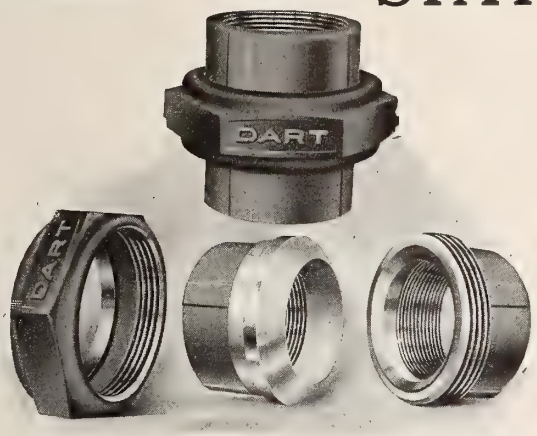
Branches: Montreal, Ottawa, London, Windsor, Etc.

"Dart" Union

PIPE COUPLINGS

BRONZE TO BRONZE
at the Joint

STAY TIGHT



They mean years of economical and trouble-free pipe coupling service.

Dart Unions can be used again and again. Repeated use does not affect their efficiency.

Your Jobber Sells Them

Dart Union Co., Limited, Toronto, Canada

GRACE & CO., LIMITED

DOMINION EXPRESS BUILDING

MONTREAL - CANADA

EXPORTERS

IMPORTERS

With our own extensive connections embracing practically all markets of importance we are in an unusual position to advise Canadian Manufacturers regarding Export Opportunities and also to submit offerings of the raw materials in which they are interested.

LONDON NEW YORK LIVERPOOL CALCUTTA
RIO DE JANEIRO LIMA TOKIO SHANGHAI SAN FRANCISCO
VALPARAISO CUBA JAMAICA BUENOS AYRES SANTOS
STOCKHOLM BARCELONA GENOA PARIS

Index to Advertisements.....Page 45 Contents.....Page 47

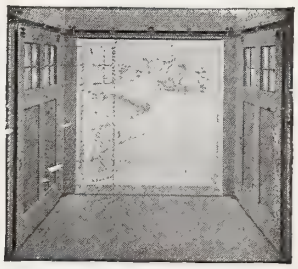


BULLDOG STEEL JOIST HANGERS

They never let go! Stronger than malleable. All sizes and styles for all kinds of work. Save space and time in erection.

GARAGE DOOR HARDWARE OF ALL KINDS FOR ANY PURPOSE

Angle Doors, Parallel Doors, etc. Special jobs receive the prompt attention of our engineering department. Let us know your requirements.





Put Your Trucks on The Ceiling!

The Modern Method of Factory Transportation

A Richards-Wilcox Carrier System---either I-Beam or Trolley---will pay for itself in one year on actual pay-roll saving, not to mention the increased efficiency. Occupies no floor space. Always ready for use. Operates easily, one man can handle 2,500 lbs. Trolley carriers made in sixteen styles and sizes for loads up to 2,500 lbs. For heavier loads use I-Beam Equipment.

Catalogs Upon Request

Richards-Wilcox Canadian Co. Ltd.

AURORA BOSTON NEW YORK CHICAGO London Ontario PHILADELPHIA MINNEAPOLIS SAN. FRANCISCO ST. LOUIS

"A hanger for any door that slides"

"R-W" TROLLEYS ARE BEST FOR ALL SLIDING DOORS



Specified by leading architects and engineers throughout Canada and the United States. "A hanger for any door that slides."

FIRE DOORS AND FIRE DOOR HARDWARE WITH UNDERWRITERS' LABEL

All styles, single or double, sliding or swinging. A fire door with labeled hardware is the surest way to prevent fire from spreading.



COPPER SPELTER LEAD

Tadanac Brand

PRODUCED IN CANADA

BY

The Consolidated Mining and Smelting Co. of Canada, Ltd.

TRAIL, British Columbia

COPPER—Electrolytic Ingot, Bar, Slab and Cake

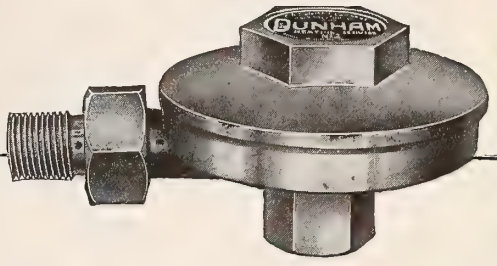
SPELTER—High-Grade Electrolytic Zinc, Brass Special and Prime Western

PIG LEAD—Chemical, Corroding and Common

Sales Office: C.P.R. Bldg., Toronto



Same in principle today as in 1903



INVESTIGATE the trap question and you find two truths: that in the last fifteen years the carbon post type and the float type trap have been supplanted by the thermostatic disc type trap—and that the Dunham Radiator Trap, the ***first*** thermostatic disc trap, is essentially the same in principle today as when it was first marketed.

The Dunham Radiator Trap was designed to relieve the radiator of the entrained air and water under conditions varying from 10 pounds pressure to 15 inches of vacuum, without adjustment. It did this in 1903—it does it today.

Send for complete data on all the elements in Dunham Heating Service

C. A. DUNHAM COMPANY, LTD., TORONTO, ONTARIO

HALIFAX
OTTAWA
VANCOUVER

The DUNHAM HEATING SERVICE

MONTREAL
WINNIPEG
CALGARY

Increases Power== Saves Fuel

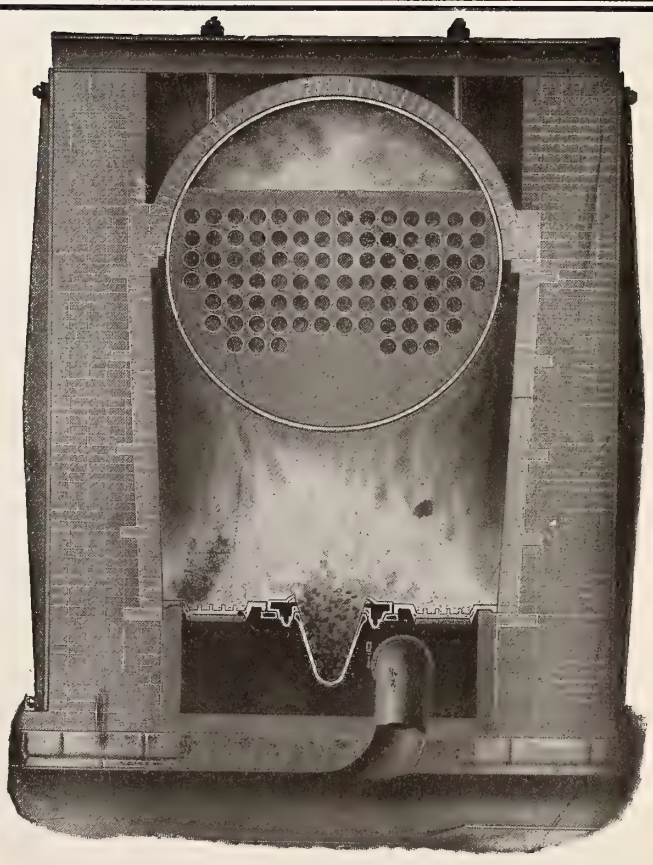
Ordinary methods of firing a boiler are a long way behind the times because it is now well known that the underfeeding principle gets a far greater amount of heat from the fuel. This principle was pioneered and developed commercially by the

JONES
Underfeed Stoker

Savings in fuel cost, varying between 15 and 25 per cent. are everyday accomplishments of the Jones Underfeed Stoker with any grade of coal from dust to run of mine.

It costs you nothing to find out the possible savings to be made in your plant. Write us for illustrated literature which gives all particulars about the Jones and tells you of plants located all over Canada where you can see the Jones working every day and get the opinion of practical men who know the Jones by experience.

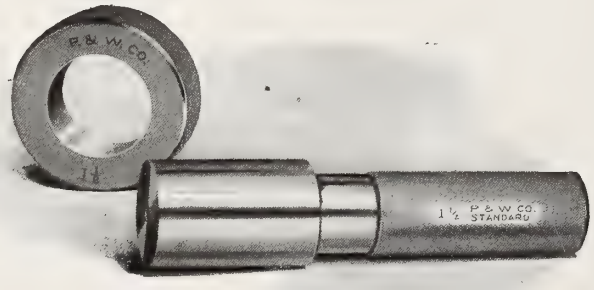
Jones Underfeed Stoker Co.
Limited
37-41 Britain Street, Toronto



SMALL TOOLS

MILLING CUTTERS

In High Speed or Carbon Steel



Plain Side Convex
Concave Angular
and
Special Forms

Special Inserted
Blade Cutters

Our tools are manufactured from the best materials procurable, by skilled workmen with most modern equipment.

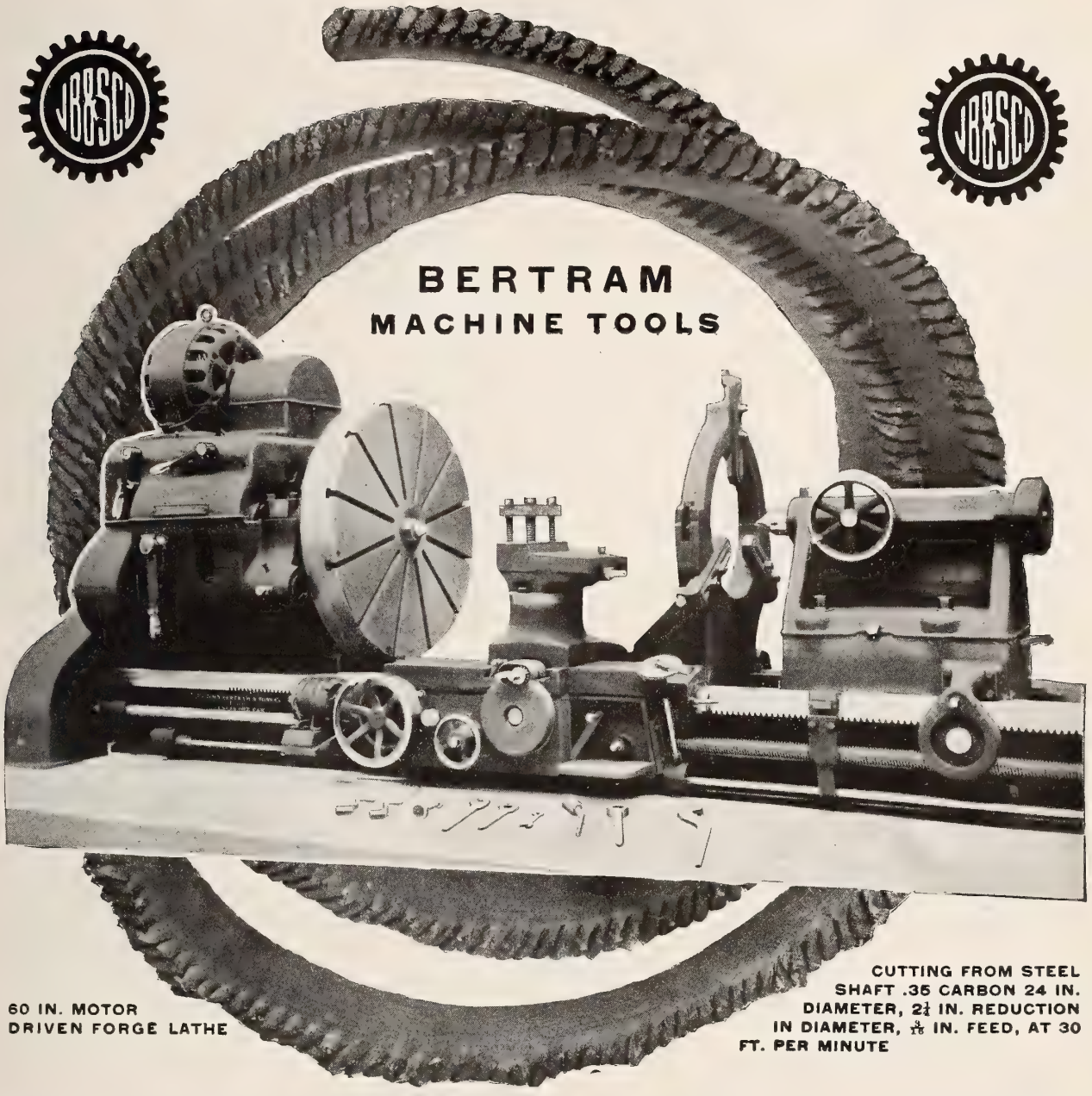
QUALITY GUARANTEED

Prompt service is assured at our nearest store, where P. & W. Small Tools are stocked for immediate delivery.

Write for Our No. 9 Catalogue

PRATT & WHITNEY CO.
of Canada, Limited
Dundas - Ontario

HALIFAX	MONTREAL	TORONTO	WINNIPEG	VANCOUVER
Davidson Bldg.	723 Drummond Bldg.	1002 C.P.R. Bldg.	1205 McArthur Bldg.	B.C. Equipment Co.



60 IN. MOTOR DRIVEN FORGE LATHE

CUTTING FROM STEEL SHAFT .35 CARBON 24 IN. DIAMETER, 2¼ IN. REDUCTION IN DIAMETER, 5/16 IN. FEED, AT 30 FT. PER MINUTE

THE JOHN BERTRAM & SONS CO., LIMITED

DUNDAS - ONTARIO - CANADA

MONTREAL
723 Drummond Bldg.

TORONTO
1002 C.P.R. Bldg.

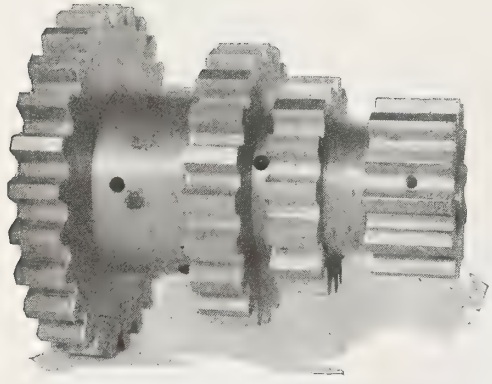
WINNIPEG
1205 McArthur Bldg.

HALIFAX
Davidson Bldg.

VANCOUVER
609 Bank of Ottawa Bldg.

Good Gears

CUT GEARS



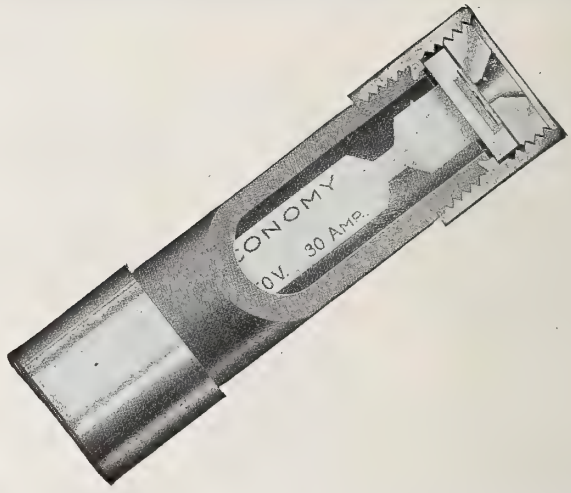
Cut from Solid Forgings with Correctly Generated Teeth

Standard or Special Forms

We like the Difficult Jobs

Hamilton Gear Co., Ltd.

Van Horne St., TORONTO



ECONOMY renewable FUSES

Owe their enviable prestige to their consistent efficiency in performance. They are the trusty guardians of millions of circuits for thousands of users who have learned from experience that they invariably measure up to the highest standards by which fuses may be judged.

As compared with the use of one-time fuses, they cut annual fuse maintenance costs 80% because an inexpensive "Drop Out" Renewal Link restores a blown Economy Fuse to its original efficiency.

Economy Fuses make friends for the contractor who writes them into specifications and the dealer who recommends them.

Write for Catalogue 40

Economy Fuse & Mfg. Co. of Canada, Ltd.

Unity Building, MONTREAL

Manufacturers in Canada of S. & C. High Potential Fuses—to 150,000 volts



A MONEY SAVER

IF YOUR COAL COMES IN BOX CARS

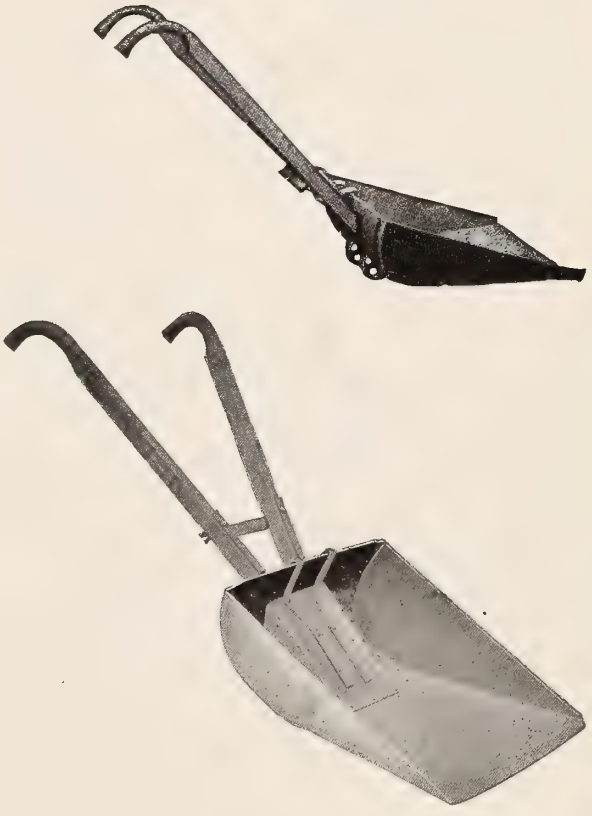
UNLOADING box cars is an expensive operation at best. Two men with ordinary shovels will take a day sometimes and it is hard work.

A test, under actual conditions, was recently made by the P. Burns Company of Toronto, coal dealers. Two men working with Truck Shovels took off a 40-ton car of coal in 50 minutes. They were just ordinary men and were working at just an ordinary rate.

A great deal of coal is now being shipped in box cars. The present car shortage demands it. Add a Truck Shovel to your equipment and your men will unload a box car quicker than any other.

Price $20.50

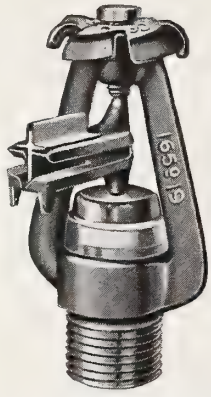
Immediate Shipment



THE GEO. B. MEADOWS
TORONTO WIRE, IRON & BRASS WORKS CO
LIMITED
TORONTO ——— CANADA

ARE YOU GAMBLING WITH FIRE?

Puts Out FIRE Quickly



Stop taking chances with that heartless fiend—FIRE. Automatic Sprinklers will guard your building day and night, nipping any fire in the bud. Remember when the fire starts, the water automatically starts.

The lower rate of insurance procurable when your building is equipped with Sprinklers will more than pay for the installation. Drop us a card to-day for full particulars.

MANUFACTURERS' AUTOMATIC

SPRINKLERS

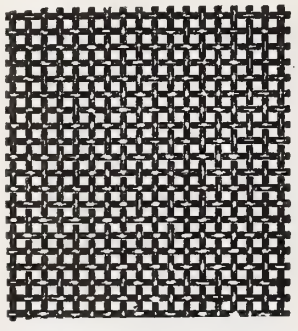
WRITE FOR ESTIMATES

The Bennett & Wright Co. Ltd.

72 QUEEN ST. EAST, TORONTO

Canada Wire & Iron Goods Co.

HAMILTON - - CANADA



Manufacturers of
Double Crimped Wire Cloth and Wire Screening
for all purposes.
Overhead Wire Guards for Freight and Passenger Elevators

There is no kind of Wire Fabric required in the production of any machine or manufactured article that we cannot furnish.

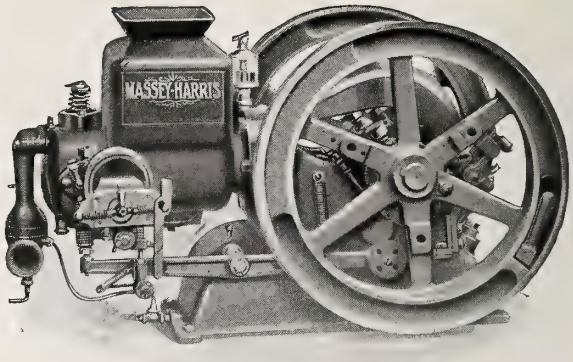
We also manufacture:—

Bank and Office Grilles and Ornamental Iron Work in all finishes.

Wire Guards for Factory Windows, Moulders' Riddles, Laboratory Testing Sieves, Steel Factory Stools and Metal Lockers.

Send for Catalogue — Enquiries Solicited

Massey-Harris



An Engine You Can Depend On

The Massey-Harris Engine can be depended on to give all the year 'round service in any kind of weather at minimum cost, because it's designed on scientific principles and every part built to stand up and wear long.

Think what these features mean:

Simple in operation.

A Simple and Efficient Carburetor gives a perfect mixture in any kind of weather.

Effective Governor—No charge or spark on Idle Stroke.

Valves Easily Removable.

Large Water Space surrounding Cylinder.

Safe Gasoline Storage in the substantial Cast-Iron Base.

Write for more detailed description of the Massey-Harris Gasoline Engine.

Made in Sizes to deliver from 2 to 15 H.P.

MASSEY-HARRIS CO., Limited

Head Office—Toronto, Canada

Canadian Branches at

Montreal Moncton Winnipeg Regina Saskatoon
Swift Current Yorkton Calgary Edmonton

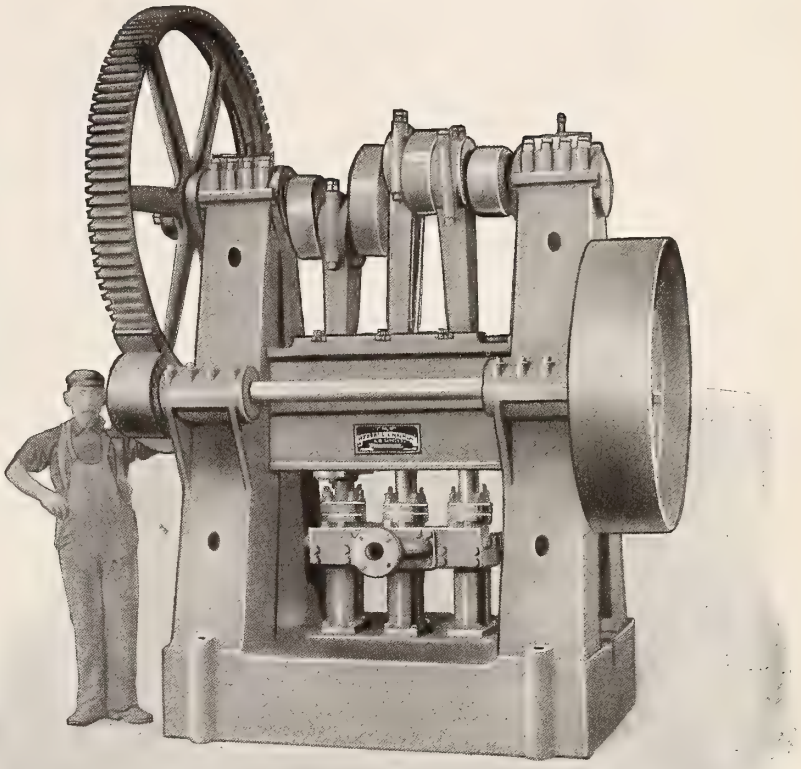
AGENCIES EVERYWHERE

HYDRAULIC and POWER PRESSES
PUMPS and ACCUMULATORS
PIPING, FITTING AND VALVES

BUILT TO MEET SPECIAL
REQUIREMENTS OF
MANUFACTURERS OF

PULP AND PAPER
LEATHER BELTING
PACKING HOUSES
VENEER
FORGINGS
MACHINE SHOPS
TANNERIES
POWDER
ETC., ETC.

Also—
SPECIAL SHELL
PRESSES AND
EQUIPMENTS



STANDARD HYDRAULIC PRESSURE PUMP

If you, as a manufacturer of products requiring pressing, or of some product in which pressing is an important factor, have need of a better pressing or special equipment than you have heretofore been unable to secure, write us fully as to your requirements.

New Catalog "B" upon request.

The Hydraulic Machinery Co.
LIMITED

MONTREAL CANADA

Where Jenkins Bros.' Valves are Made

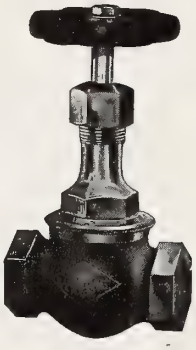


Fig. 106



Factory and Head Office of
JENKINS BROS. LIMITED
Montreal, Canada

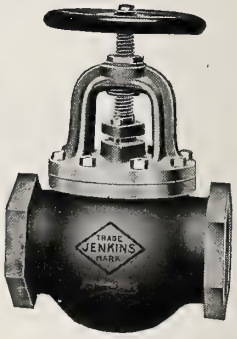


Fig. 141

Where plants are scientifically operated, valve value is measured by service rendered, and by yearly ***lack*** of up-keep cost.

If valves break down before other items of equipment, an injustice is done to the entire plant; because valves should last as long as good plant equipment. Good valves do.

Consider—40 per cent. of the Nation's Coal Pile is lost each year by power plants, from their coal investment through poor steam transmission, and from unnecessary labor costs.

JENKINS BROS.' VALVES will keep your plant running and save you money.

A Protection to the User

A steam user who installs Jenkins Bros.' Valves, can do so with the knowledge that he is protected by the maker against defects and imperfections. Our dealers have instructions to replace, without question, any imperfect or defective Jenkins Bros.' Valve returned to them.

Catalogue No. 8 sent free on request.

Head Office and Works
103 St. Remi St.
Montreal - Canada

JENKINS BROS.
Limited
Agencies in All the Principal Countries of the World

European Branch:
6 Great Queen St.
Kingsway
London, W.C. 2, Eng.

The New Motor Car



The Greatest Improvement In Riding Comfort Since the Introduction of Pneumatic Tires.

Write for full particulars

WILLYS-OVERLAND LIMITED
Willys-Knight and Overland Motor Cars and Light Commercial Wagons
Head Office and Works, Toronto, Canada
Branches: Montreal, Winnipeg, and Regina



ALGOMA

STRUCTURAL STEEL – MERCHANT BARS

Blooms, Billets and Slabs
Concrete Reinforcing Bars
Shafting – Pulleys – Hangers
Iron, Brass, Bronze and Steel Castings

Sulphate of Ammonia Nitre Cake
Sulphuric Acid

STEEL RAILS – Open Hearth Quality
Splice Bars Steel Tie Plates
Light Rails – 12 lbs. to 45 lbs.

PIG IRON

Basic Foundry Bessemer Spiegel

ALGOMA STEEL CORPORATION
LIMITED
SAULT STE. MARIE - - - - ONTARIO



Dodge Wood-Split Pulleys may be run at maximum speeds without danger of bursting.

And they will run at these greater speeds on a small expenditure of power, because there is no belt slippage and no weight friction.

Repeated shop and bench tests prove them 50% more efficient than metal pulleys.

What's more, you can get Dodge Wood-Split Pulleys shipped in all sizes from 4-inch up diameter on the day orders are received.

DODGE

Manufacturing Co., Ltd.
TORONTO : ONTARIO

Canada's Largest Builders of Transmission Machinery

The Handy Air Hoist

In the Foundry and Forge Shop For---

Operating Core-Oven Doors
Operating Cupola Elevators
Lifting Copes
Handling Castings
Serving Quenching Tanks
Serving Annealing Furnaces



In the Machine Shop and Store Room For---

Serving Boring Mills
Serving Planers
Serving Lathes
As a Quick Return for Lathes
Handling Machine Parts in Assembly
Loading Finished Machines
Unloading Stores

For all of these uses you require an air hoist that can be relied upon at all times. "CIRCO" Direct Lift Hoists are so designed as to be dust and moisture-proof and are fitted with a special valve which is absolutely dependable and requires a minimum amount of attention.

Bulletin K-602 contains some interesting information on direct lift hoists. Ask our nearest branch for your copy

Canadian Ingersoll-Rand Company Limited

Sydney Sherbrooke Montreal Toronto Cobalt Winnipeg Nelson Vancouver



ROLLING STEEL DOORS

for Elevator Shafts, Shipping Platforms and all Awkward Corners

IT is the door that gives you Fire Protection no matter in what position you leave it, as it automatically closes of itself.

It is endorsed by the Underwriters, has been tested by them, has withstood a heat test of 1690 degrees Fahrenheit, so you can rest assured it will protect your premises. The fact that it bears the Underwriters' label is your guarantee that you will receive your full insurance allowance. Sub-standard goods mean only a partial reduction and do not mean fire protection.

It is the most economical door made as regards space, taking up but three to four inches on either side of the opening, and from twelve to fifteen inches above.

It is the most economical door made as regards upkeep. It lasts indefinitely, stands any amount of wear and tear and is very quickly repaired. -:- -:- Send us your sizes and let us quote you.

THE A. B. ORMSBY COMPANY LIMITED, TORONTO

Associated with THE METAL SHINGLE & SIDING CO., LIMITED
Factories at Preston, Toronto, Montreal, Winnipeg, Saskatoon, Calgary.

MARITIME PROVINCES
F. A. GILLIS & CO., HALIFAX, N.S.

-:- AGENTS -:-

BRITISH COLUMBIA
A. T. CHAMBERS, VANCOUVER

CANADIAN FURNACE CO.

LIMITED

PORT COLBORNE, ONT.

Manufacturers of Pig Iron

BRAND "VICTORIA"

"VICTORIA" FOUNDRY IRON

Strong—Soft—Neutral

"VICTORIA" MALLEABLE IRON

Furnished to all Standard Analyses

SOLE SALES AGENTS:

M. A. HANNA & CO.

Cleveland, Ohio

BUFFALO, N.Y. PITTSBURG, PA. DETROIT, MICH

TORONTO, ONT.



Out of Bed on the Right Side

THAT light, well-rested feeling; a smiling face; a cheery word to those around the house—and you have the correct aspect for the day.

THE tasks of the night before will never stand against a mood like this—they will look like nothing—one by one they will vanish.



THIS morning mood is essential to your success. It gives you the mastery over the situations that arise. Maintain your good humor until ten o'clock and the rest of the day will take care of itself.



THERE is nothing more conducive to contentment and an even tenor than the cool comfort of the Gillette shave. The time saved, the ease of the whole operation, the complete success, and the feel of your chin will all contribute to your satisfaction and have their effect upon your mood. Your mood is an important factor in business. It affects your actions and decisions.



DIRECT the influence of the morning shave to your advantage—Use a Gillette.

Sold at most stores catering to men's needs

MADE IN CANADA

TRADE Gillette MARK

KNOWN THE WORLD OVER

The Gillette Safety Razor Co. of Canada, Limited, Montreal, Que.

Ford

Announcement

FORD policy has always been one of progress.

We now announce a pronounced step forward.

Ford Touring Cars and Runabouts may still be purchased at the minimum price—Runabout $660; Touring $690.

Electric Starting and Lighting equipment will be supplied if desired, at $100.00 extra.

Coupe $975, Sedan $1175 (Closed model prices include electric starting and lighting equipment).

If you wish demountable rims, tire carrier and non-skid tires on the rear, they will be supplied on closed cars only, at $25 extra.

These prices are f. o. b. Ford, Ontario, and do not include War Tax. 125

Ford Motor Company of Canada
LIMITED
Ford, Ontario

Dependable and Efficient Power Equipment

Land

Horizontal and Vertical Steam Engines

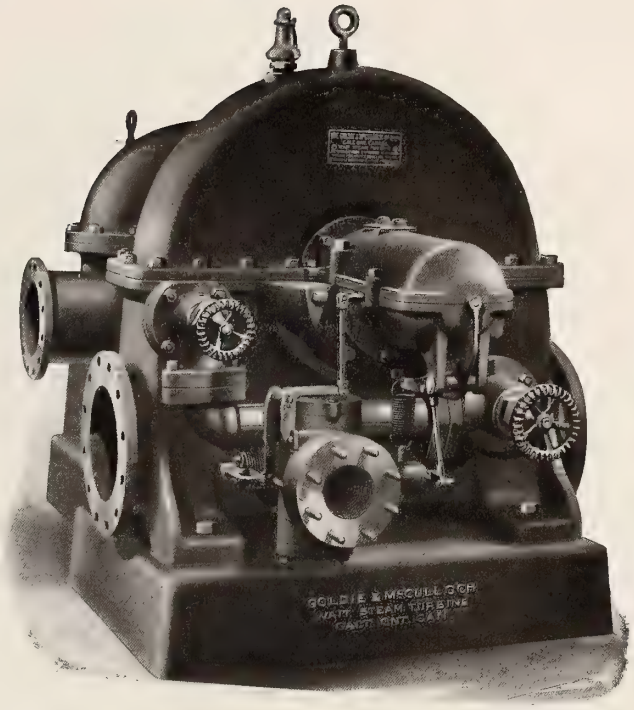
Steam Turbines

Return Tubular and Water Tube Boilers

Heaters

Centrifugal and Reciprocating Pumps and Condensers

Transmission Appliances



Marine

Compound and Triple Expansion Marine Engines

Ships' Lighting Sets

Vertical Bilge and Ballast and Boiler Feed Pumps

"Contraflo" Condensers
Heaters
Filter and Drain Tanks

Morison's Radial Evaporators

Ships' Side Lights etc.

Illustration shows a Goldie & McCulloch "Wait" Steam Turbine direct connected to centrifugal pump.

We also build SAFES, VAULTS AND VAULT DOORS, Deposit Boxes, etc. G. & McC. Co. Safes have never failed to preserve their contents in all of Canada's great fires for the last forty years.

Any of our catalogues and the advice of our Engineering Department are yours for the asking.

THE GOLDIE & McCULLOCH CO., Limited

Head Office and Works: GALT, ONTARIO, CANADA

TORONTO OFFICE: Suite 1101-2 Bank of Hamilton Bldg.

WESTERN BRANCH: 248 McDermott Ave. Winnipeg, Man.

QUEBEC AGENTS Ross & Greig 400 St. James St., Montreal, Que.

BRITISH COLUMBIA AGENTS: Robt. Hamilton & Co. Vancouver, B.C.

B.C. Safe Agent: C. L. FORD, 569 Richards St. Vancouver, B.C.

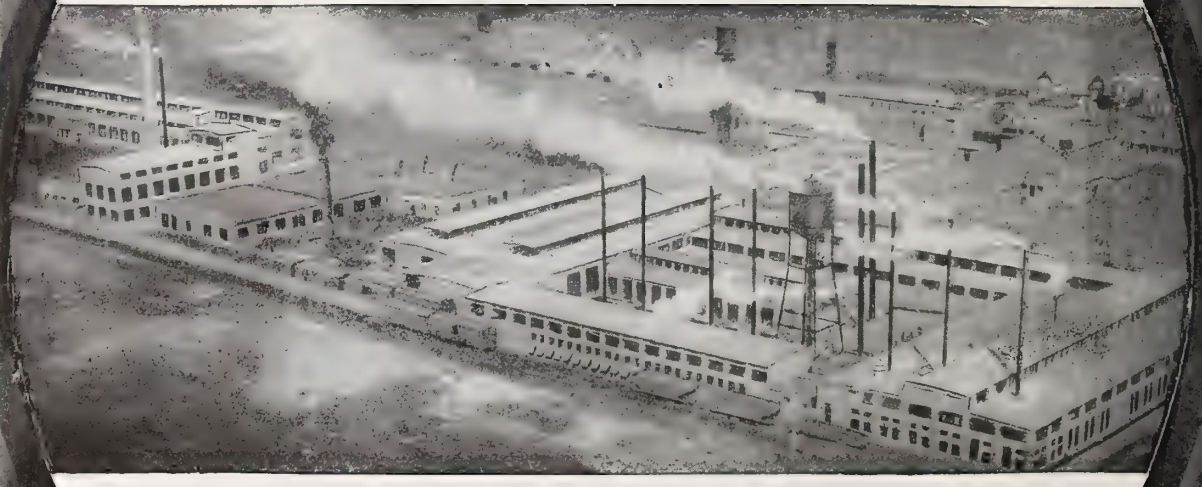
Maritime Safe Agent: E. L. STAILING, 16 Roy Bldg., Barrington St. Halifax, N.S.



BROWN'S

Beaver Brand Metals

Copper, Brass, Bronze, Canada Silver, and Gilding Metal in sheets, rolls, plates and rods. Naval Bronze, Yellow Metal and Muntz Metal in sheets and rods for shipbuilding requirements. Specify Beaver Brass Rod for drilling and free cutting. Extruded shapes.



Guaranteed Ingot Metals—Yellow, Red and Composition Ingots.
We are Purchasers of Copper Bearing Material.

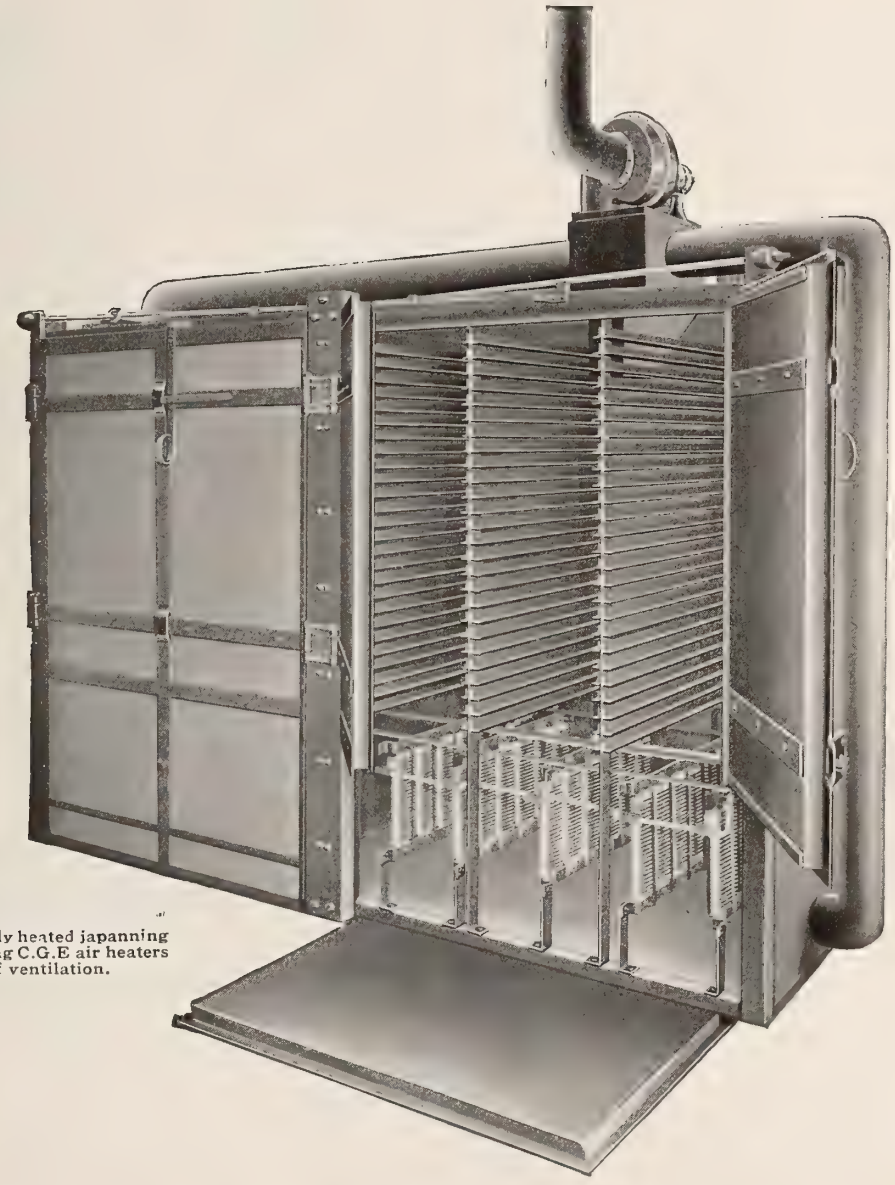
Link up with Beaver Brand Products—you'll like the quality, price and service.

Brown's Copper & Brass Rolling Mills, Limited

New Toronto, Ont., Can.

COPPER & BRASS
BROWN'S
QUALITY
ROLLING MILLS

C.G.E.
Electric Ovens



Electrically heated japanning ovens showing C.G.E air heaters and method of ventilation.

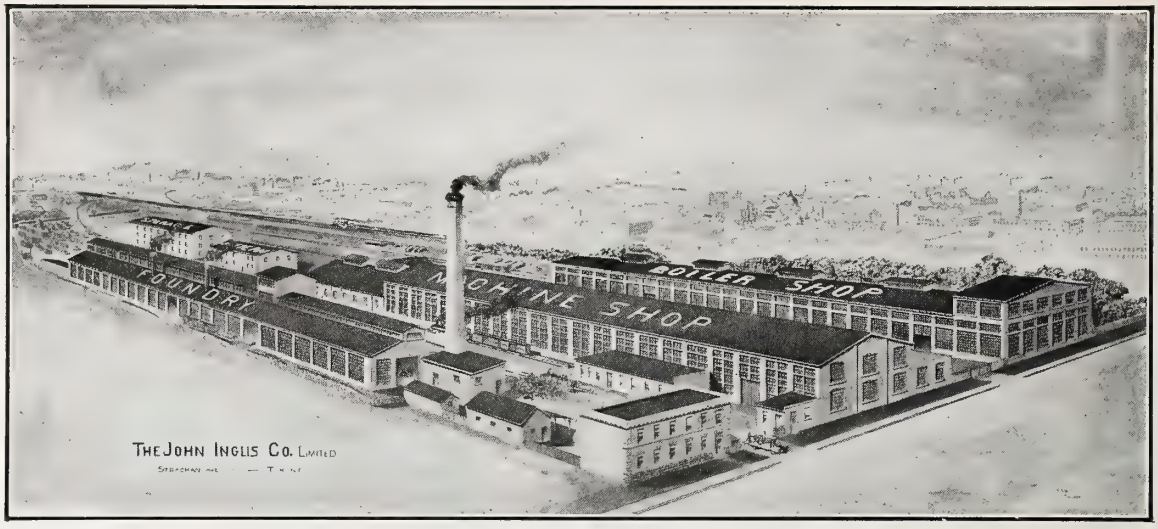
Experience proves that electric heating gives perfect heat distribution and permits greater flexibility in temperature control than can be obtained with fuel. The resister material in C.G.E. Heaters is capable of enduring a continuous heat of 800°C. (1472°F.) It is carried on insulating material which maintains its insulating qualities at 1000°C. (1832°F.) with no expansion or contraction.

Write our nearest Sales Branch for full particulars.

CANADIAN GENERAL ELECTRIC COMPANY, LIMITED

Head Office - TORONTO

Branch Offices: MONTREAL, QUEBEC, HALIFAX, SYDNEY, ST. JOHN, OTTAWA, HAMILTON, LONDON, WINDSOR, COBALT, SOUTH PORCUPINE, WINNIPEG, CALGARY, EDMONTON, NELSON, VANCOUVER and VICTORIA



Plant of the John Inglis Co., Limited

ENGINES BOILERS AND TANKS

of All Kinds for Any Service

Send us your enquiries

THE JOHN INGLIS COMPANY, LIMITED

Engineers and Boilermakers

14 STRACHAN AVENUE - TORONTO, CANADA

Representatives in Eastern Canada—JAS. W. PYKE & CO., Limited, 232 St. James Street, Montreal

Ottawa Representative—J. W. ANDERSON, 7 Bank Street Chambers



Hose was hose — Till Goodyear Built it



THE GOODYEAR CORD TIRE of to-day would not have been possible had Goodyear been guided by the hide-bound traditions of the rubber industry.

Nor could Goodyear Industrial Hose ever have reached its high degree of perfection.

But Goodyear refused to be bound by precedent or trade prejudices. Hose fit to meet modern industry's varied and severe demands was our goal. Prevailing methods of construction would not do. Better methods had to be developed.

It was typical of Goodyear to study the hose requirements of industry exhaustively—to want to know exactly the conditions industrial hose must meet in use.

To discard existing processes of hose building, rubber compounds and cotton specifications and set new and more exacting standards—to develop more modern processes and methods of construction.

So you are offered the more efficient Goodyear Industrial Hose—hose that embodies all the virtues demanded by the strenuous needs of 20th century industrial life.

For foundry, paper mill, mine, railway, steel plant and every other industry there is a Goodyear Hose that will meet your needs more exactingly; that will give more lasting service.

Goodyear Industrial Hose will open up to you new possibilities of economy, increased production and hose satisfaction.

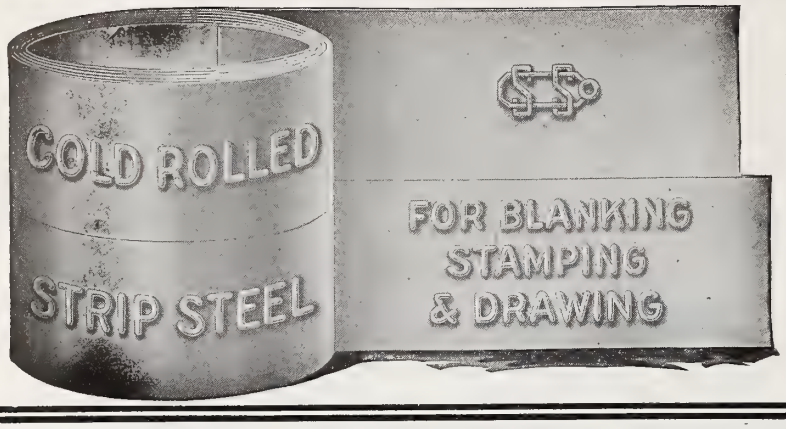
A man trained by Goodyear in hose problems will gladly call upon you without obligation.

Just phone, wire or write the nearest branch

The Goodyear Tire & Rubber Co. of Canada, Limited

Halifax, St. John, Quebec, Montreal, Ottawa, Toronto, Hamilton, London, Winnipeg, Regina, Calgary, Edmonton, Vancouver

GOODYEAR
MADE IN CANADA
INDUSTRIAL
HOSE

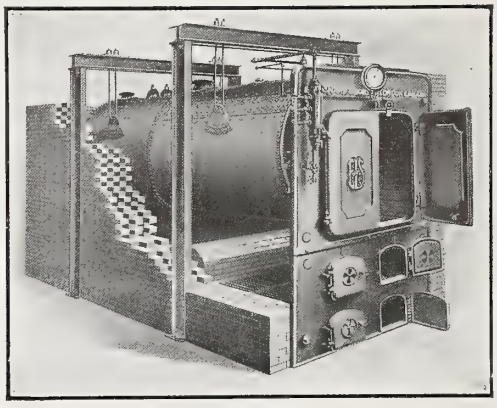


FINISHED BRIGHT
FOR
ELECTRO PLATING
DEEP DRAWING QUALITY
ACCURATE GAUGE AND WIDTH
WE SOLICIT YOUR ENQUIRIES

MANUFACTURED BY
STANLEY STEEL CO., LTD.
Hamilton, Canada

E. LEONARD & SONS, LIMITED
London, Ontario

Manufacturers of BOILERS, ENGINES of all types and sizes



BRANCHES:
1790 St. James St., Montreal, Que. 62 Water Street, St. John, N.B.

AGENTS:
Vancouver Machinery Depot, Limited, Vancouver, B.C. George Stewart, 5 Lineham Block, Calgary, Alta.
Wm. W. Hicks, 567 Banning St., Winnipeg, Man. Thos. A. Pippy, Waldegrave St., St. Johns, Nfld.
E. J. Philip & Sons, 103 Hamilton Trust Bldg., Toronto, Ont.

"CRANES MADE IN CANADA"



Electric Traveling Cranes

HAND POWER TRAVELING CRANES
ELECTRIC HOISTS, AIR HOISTS, FOUNDRY EQUIPMENT

Northern Crane Works, Limited - - - - Walkerville, Ontario

Clydesdale

MOTOR TRUCKS

MADE IN CANADA



Every User is a Satisfied User

The space allotted to us at the Exhibition permitting of the display of only one model, we selected a Clydesdale 5-Ton Truck, equipped with Hydraulic Hoist and Steel Dumping Body—of especial interest on account of the Road Building activities throughout the country.

We extend an invitation to those interested in motor trucks to visit our Toronto Plant and inspect our complete line of Clydesdale Motor Trucks, built in 1—1½—2—3½ and 5-ton capacities.

Perfection of design—faithfulness of service—the highest quality of material—and the sturdiness of construction combine to establish the Clydesdale trucks in their enviable position as wonderful transportation performers. They give constant, uninterrupted service, and

They are Made in Canada

THE CLYDE CARS COMPANY CANADA LIMITED

General Office and Plant—73 Pearl Street
TORONTO, CANADA

PEDLAR'S Saino ALL METAL FIREDOOR

Does Not Transmit Heat

Between the two cross-laid sheets of 22 gauge corrugated iron forming the surface of both sides of the door there is a lining of asbestos. This prevents the transmission of heat. Expansion joints permit expansion and contraction along straight lines, thus preventing any warping. As a result, Pedlar's "Saino" Firedoor fits always snugly in place, and, containing only material of superior fire-resisting qualities, acts infallibly no matter how fierce the heat to which it is subjected. Fifteen years of practical tests under all conditions constitute proof that cannot be assailed.

"Saino" Booklet I.C. on Request.

The Pedlar People Limited

Established 1861

Executive Offices and Factories

OSHAWA, ONT.

Branches: Montreal Quebec Ottawa Toronto Winnipeg Vancouver





Nova Scotia Steel & Coal Co. LIMITED

PLATES

1/8 to 5/8" thick up to 48" wide, weighing up to 1060 lbs. each

Fluid Compressed Steel Forgings

We manufacture Merchant Bars, Rounds, Flats, Squares, Ovals, Half Ovals, Tires, Sleigh Shoes, Plain or Twisted Concrete Bars, Agricultural Sections, Cold Drawn Shafting, Machinery Steel, Angle Bar Fish Plates, Track Spikes and Bolts.

General Sales Office:
WINDSOR HOTEL, MONTREAL

Head Office:
NEW GLASGOW, N.S.

The Ault & Wiborg Co.

of Canada, Limited

Manufacturers of

Dry and Pulp Colors

Dyes for All Trades

also

Colors in Oil and in Japan

and

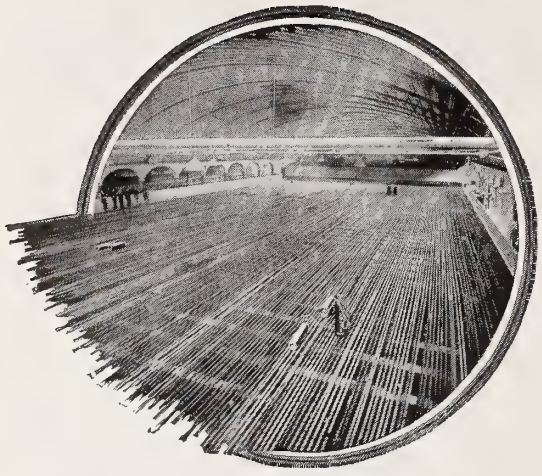
All Lines of Varnishes

Chemists at the Head of All Departments

Always Ready for Consultation

Address us at any of the Three Cities :

Winnipeg TORONTO Montreal



Two Thousand Joints on Ten Miles of Piping Made Leak-Proof at Less Cost

This illustration shows the groundwork of 2-inch ammonia pipe which forms the floor of one of the largest artificial ice rinks in the world. The size of this immense rink is 210 ft. by 90 ft. Ten miles of piping was required, and every one of the 2,000 joints was welded by the Prest-O-Lite Process at a substantial saving in cost over the old-style threaded joint. Moreover the work was neater and smoother as well as stronger, because the welded joint is as strong as the pipe itself.

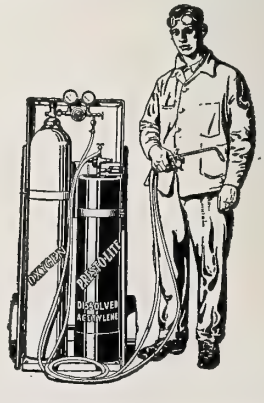
Prest-O-Lite PROCESS

has become standard practice on steel pipe lines in thousands of factories and plants. It is widely used in the construction of piping systems for steam, gas or air—in office buildings, hotels, factories, power plants, mines, machine shops and refrigerating installations.

The Prest-O-Lite Process employs both gases (acetylene and oxygen) in portable cylinders. Prest-O-Lite Dissolved Acetylene (ready to use) is backed by Prest-O-Lite Service, which insures prompt exchange of full cylinders for empty ones. Provides dry, purified gas, insuring better welds, quicker work and lower operating cost. Adaptable for oxy-acetylene cutting by the addition of a special cutting blow-pipe.

Full instructions are furnished free to every user of Prest-O-Lite Dissolved Acetylene. Any average workman who understands metals can learn the process quickly and easily. Write for valuable illustrated literature and data on work others are doing by this process, in construction, manufacturing and repairing. It may prove to be the solution of your problems.

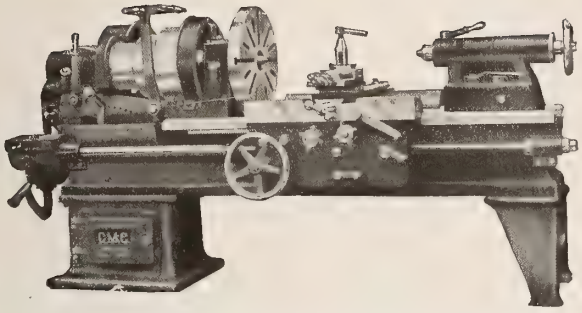
Address Dept. C-104



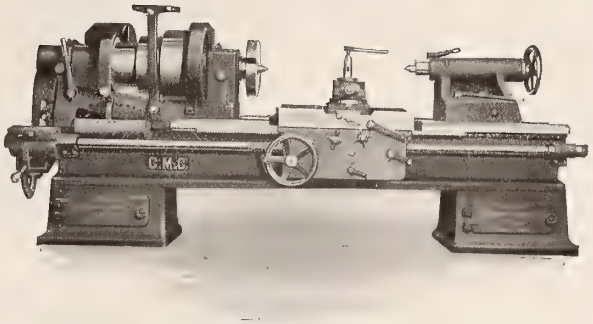
Prest-O-Lite Company of Canada, Limited

Prest-O-Lite Building, Corner Elm Street and Centre Avenue
TORONTO

Plants : Toronto, Ont. ; Merritton, Ont.
St. Boniface, Man. ; Shawinigan Falls, Que.

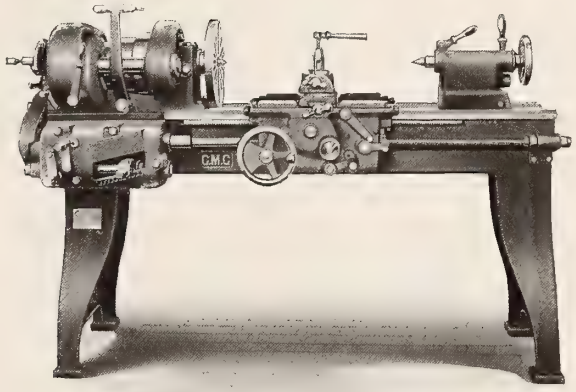


20 inch Engine Lathe with
Quick Change Gears

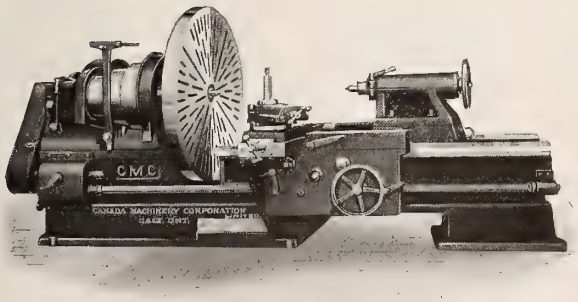


32 inch Engine Lathe with
Quick Change Gears

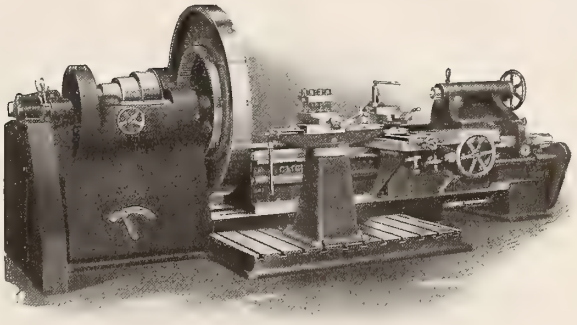
SOME C.M.C. LATHES



14 inch Tool Room Lathe



26 inch Plain Cap Lathe



72 inch Break Lathe

CANADA MACHINERY CORPORATION, LIMITED, GALT, ONTARIO

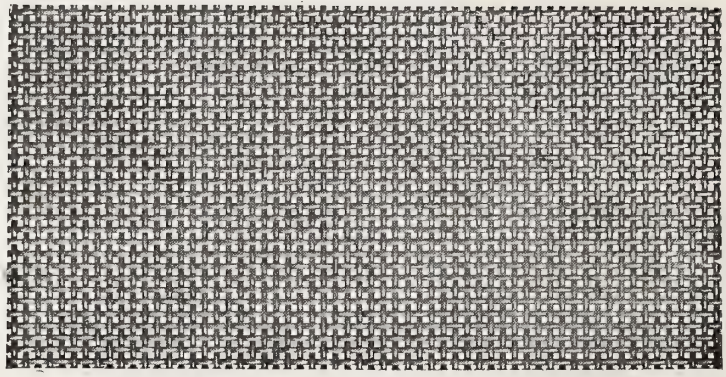
TORONTO OFFICE AND WAREROOMS - - - - BROCK AVENUE SUBWAY

THE B. GREENING WIRE CO. LIMITED

MANUFACTURERS OF

WIRE CLOTH **WIRE ROPE**

PERFORATED METALS



Hamilton, Ont. **Montreal, Que.**

SHOW YOUR SAMPLES UNWRINKLED

WARDROBE TRUNKS

for Suits, Coats, Dresses and Waists

WE MAKE
SAMPLE TRUNKS
AND CASES
FOR EVERY
BUSINESS

Let us know your needs and get our prices.

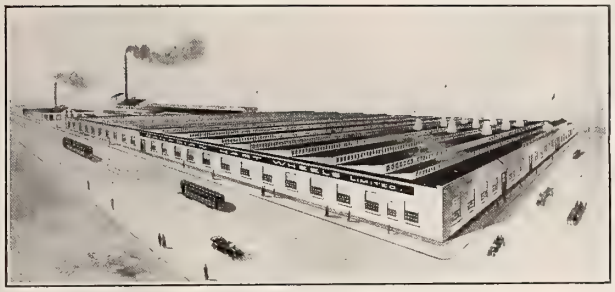


The M. Langmuir Mfg. Co. of Toronto
Limited

Canadian Hart Wheels

CUT FASTER LAST LONGER

Than any other wheels on the market



OUR NEW MODERN PLANT

Tell us the service you want performed and we will supply you with an abrasive wheel that will save you time, money and worry.

Send for one of our catalogues and tell us your troubles. We do the rest.

CANADIAN HART WHEELS LIMITED
HAMILTON - - ONTARIO





CANADIAN MADE

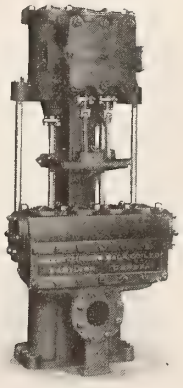
STEEL BARRELS

The modern package for storage and shipping of CANADIAN products.

Can you afford those leaky, wooden barrels ?

SMART-TURNER PUMPS

STEM AAND POWER
VERTICAL AND HORIZONTAL



THE SMART-TURNER MACHINE CO. LIMITED
HAMILTON - - - CANADA

The Wm. Kennedy & Sons, Limited
Owen Sound, Ontario

Headquarters for Propeller Wheels, Ship Windlasses, Capstans, Winches, Steering Engines, Mill Gearing, Turbine Water Wheels, etc.

Iron and Steel Castings

GIVE CANADIAN SHOPS THE PREFERENCE.

JARDINE
Canadian Giant Power Hammer



There is nothing like it for rapid and accurate production of light to medium forgings.

No. 25 forges up to 2" stock.
1½ Horse Power drives it.
Weight 825 lbs.
Price $171.00.

No. 50 forges up to 2½" stock.
2½ Horse Power required for heavy work.
Weight 1,750 lbs.
Price $275.50.

A. B. JARDINE & CO., Limited
HESPELER - ONTARIO

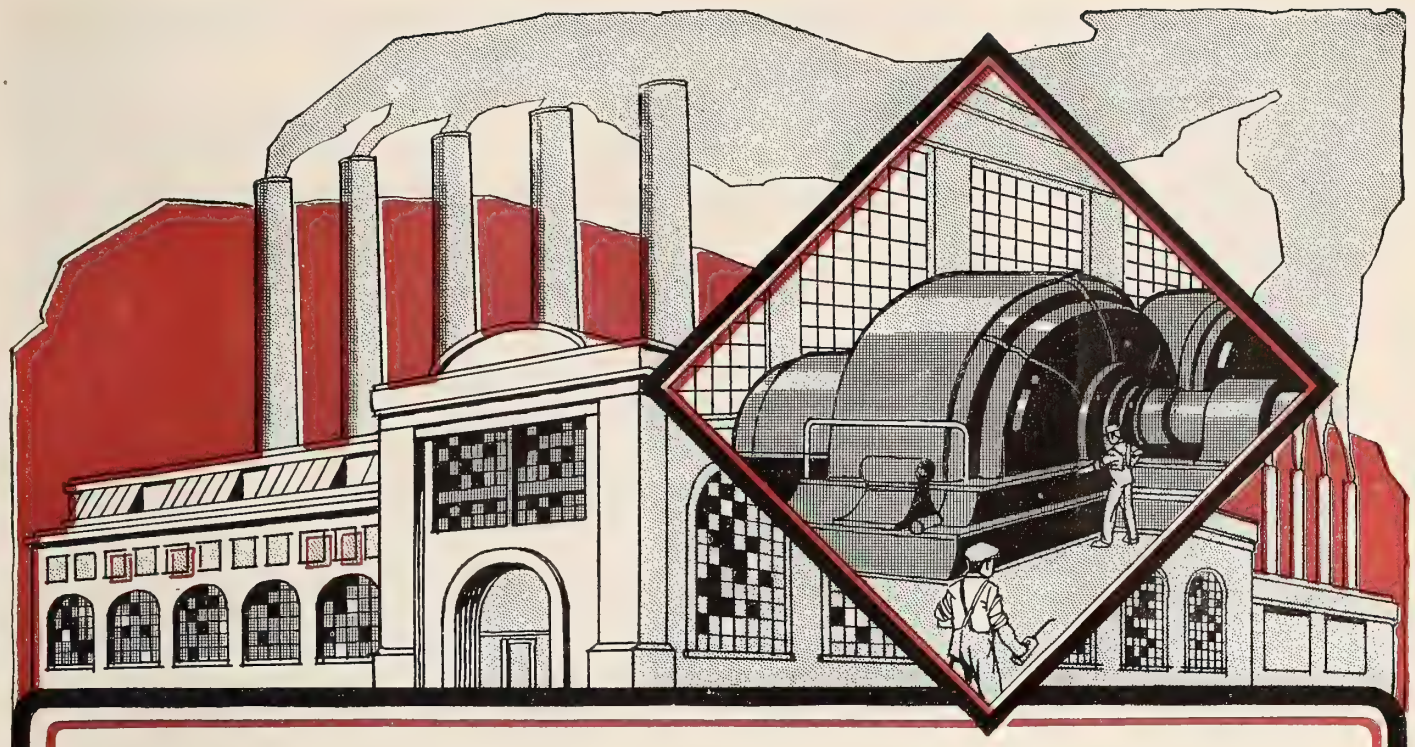
The "Why" of Steel Shelving

DENNISTEEL Shelving takes proper care of stock, preventing waste and careless handling, saving time in finding the thing required. It provides 25% more storage capacity than wooden shelves, saving valuable floor space. In stock-taking, everything is simple and quick—the stock is rightly kept. **DENNISTEEL** Shelving is adjustable to requirements, will carry heavy loads, is vermin and rodent proof; will not rot, crack or split; is **FIREPROOF**, reasonable in cost and lasts a lifetime. This, we believe, will appeal to you as a money-saving proposition and a definite economy Write for folders, please.

THE DENNIS WIRE AND IRON WORKS CO. LIMITED
LONDON
CANADA

Halifax, Montreal, Ottawa, Toronto, Hamilton, Winnipeg, Calgary, Vancouver





IMPERIAL

Lubricants

For Manufacturing, Mining and Milling

CYLINDER OILS

Imperial Valve Oil
Imperial Cylinder Oil
Imperial Capitol Cylinder Oil
Imperial Beaver Cylinder Oil
Imperial 20th Century Cylinder Oil

ENGINE OILS

Imperial Kearsarge Engine Oil
Imperial Solar Red Engine Oil
Imperial Atlantic Red Engine Oil
Imperial Junior Red Engine Oil
Imperial Bayonne Engine Oil
Imperial Renown Engine and Dynamo Oil
Imperial Standard Gas Engine Oil
Imperial Ario Compressor Oil

Steady, Dependable Power

INDUSTRIAL success is based on power—steady, dependable power. Every mechanical unit in your plant—engines, dynamos and machines—must give 100% efficiency and therefore must be carefully and properly lubricated with lubricants of correct body.

When choosing your lubricants, you cannot afford to consider any factor other than quality. Good lubricants, like those in the Imperial line, are always most economical. They cost less per lubricating hour because they last longer; they do not wear or burn out as do poor lubricants.

Imperial Lubricants are right. They never vary in quality and will give you continuous satisfaction and better dollar-for-dollar value. They are made only from the best crudes obtainable and are as perfect as science and experience can make them.

Look over the list on the left. Among those lubricants you will find the right lubricant for every moving part of every machine in your plant. Their use will enable your plant to give steady, dependable power under every service condition.

We invite you to consult with our Lubrication Engineers. Their advice or assistance is yours for the asking. Address us at 56 Church Street, Toronto, or at any of our branches.

IMPERIAL OIL LIMITED

Power · Heat · Light · Lubrication

BRANCHES IN ALL CITIES



Canadian Carbide

Made in Canada

SOLD THE WORLD OVER

Second to None in

QUALITY, GAS YIELD AND PACKAGE

Works:
St. Catharines, Ont.
Shawinigan Falls
Que.

MANUFACTURED BY

Canada Carbide Company, Limited
MONTREAL - CANADA

Patterns of All Kinds



Castings of Iron and Brass

Offices and Works: Commercial St., Levis, P.Q., Canada

LAUZON ENGINEERING LIMITED, LEVIS, P.Q., CANADA (Opposite Quebec)

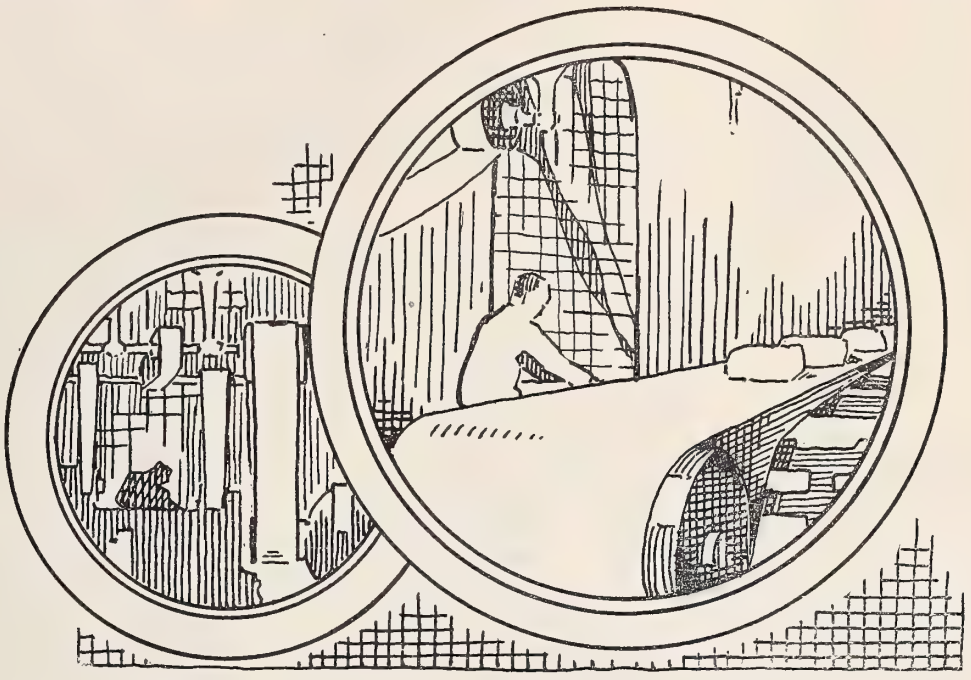
Builders of Land and Marine Engines and Boilers.
BRASS AND IRON FOUNDERS.

MECHANICAL REPAIRS OF ALL KINDS.
ENGINEERS AND CONTRACTORS.

Head Office and Plant: LEVIS, P.Q., CANADA

Building of Marine Boilers and Engines; also Installation of same on board ship our specialty.

Our shops formerly known as The Carrier-Laine Shops are at present the best equipped in the Province of Quebec for this class of work. Our Shipping facilities are unexcelled. We have a Deep-Water Wharf adjacent to our plant, and our yard sidings are connected with three railways—Canadian Government Railways, the Grand Trunk Railway, and the Quebec Central Railway. We make patterns of all kinds, and Castings of Iron and Brass.



How Dominion Rubber System Belting Service Helps Belt Users

For more than fifty years we have specialized in the making of belting and the solving of problems in transmitting power and conveying materials economically.

We maintain a staff of belting experts for the sole purpose of helping Canadian Manufacturers to "speed up" production by cutting belting costs and eliminating power wastage.

These experts will without charge, analyze your transmission and conveying equipment in its entirety and will recommend changes only where they are necessary to increase the efficiency of that equipment.

You are under no obligation to us in availing yourself of this service—the only return that we request is that you purchase Dominion Rubber System Belting when you have been convinced that the changes recommended by our engineer will be beneficial.

This special service is available through any of our branches.

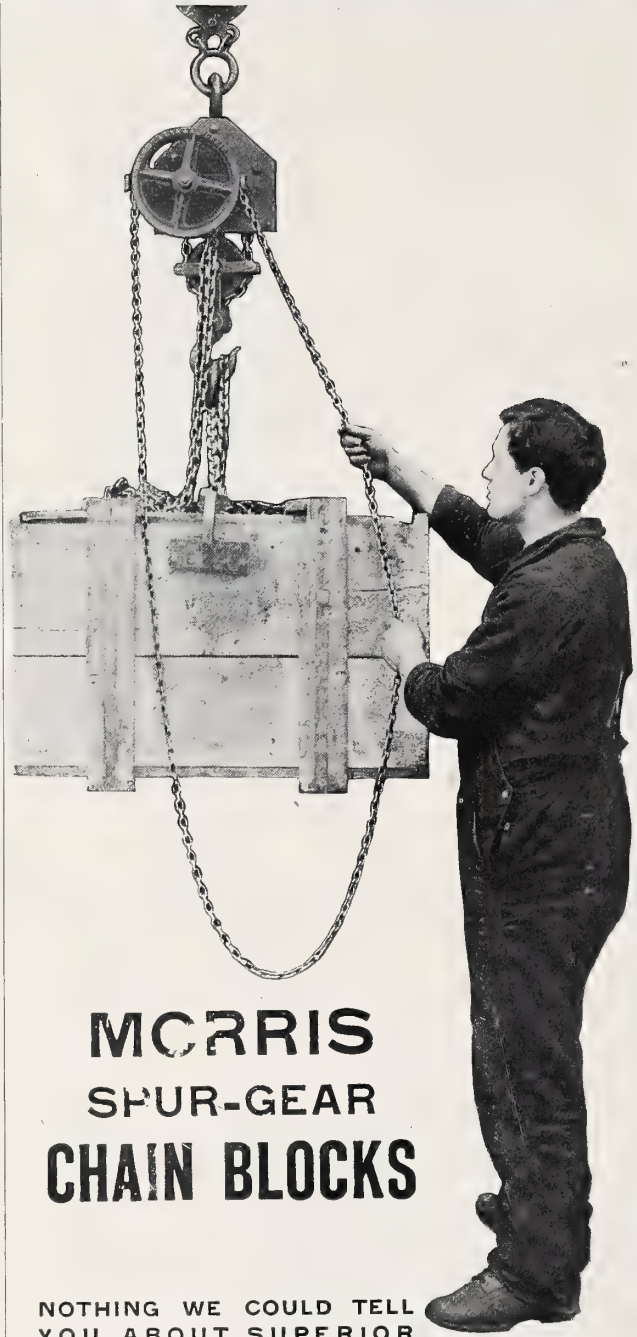
Phone, wire or write the one nearest to you and let us prove to you that the kind of service we have given to Canada's largest industries and the kind we want to give to you, means more than just selling better belts.

CANADIAN CONSOLIDATED RUBBER CO. LIMITED
DOMINION RUBBER SYSTEM
AND ASSOCIATED COMPANIES

Makers of
Dominion Hose, Packing and Industrial Rubber Goods and Dominion Tires, the GOOD Tires for every purpose.

Services Branches

Halifax	London	Saskatoon
St. John	Kitchener	Edmonton
Quebec	North Bay	Calgary
Montreal	Fort William	Lethbridge
Ottawa	Winnipeg	Vancouver
Toronto	Brandon	Victoria
Hamilton	Regina	



MORRIS
SPUR-GEAR
CHAIN BLOCKS

NOTHING WE COULD TELL YOU ABOUT SUPERIOR QUALITIES OF THESE BLOCKS COULD BE HALF SO CONVINCING AS AN ACTUAL TEST IN YOUR OWN SHOP UNDER ORDINARY WORKING CONDITIONS.

MADE IN CAPACITIES FROM ½ TON TO 5 TONS. PORTABLE AND TRAVELING TYPES.

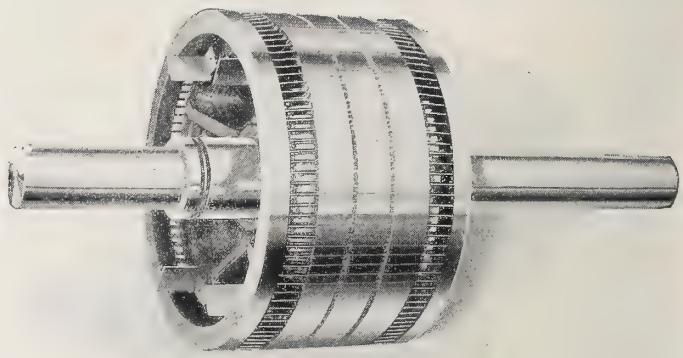
WE ALSO BUILD THE WORM AND TRIPLE GEAR TYPES FOR LARGER CAPACITIES. ASK US ABOUT THEM.

The Herbert Morris Crane & Hoist Company, Limited

NIAGARA FALLS ONTARIO

TORONTO OFFICE, Kent Building

MONTREAL OFFICE 296 St James St



The next time you buy Motors

JUST BE CURIOUS ENOUGH TO ASK YOUR ELECTRICAL EXPERT IF THE ROTOR LOOKS LIKE THE ABOVE.

IF SO—IT'S CANADIAN CROCKER-WHEELER DESIGN—EFFICIENT, LONG LASTING AND ECONOMICAL.

THE SOLID METAL WINDING MEANS NO LOOSE JOINTS—NO BOLTS, RIVETS OR SCREWS TO COME AWAY—NO SPARKING OR ARCING AT BARS OR RINGS.

UNDER ARRANGEMENT WITH

Northern Electric Company
LIMITED

Montreal Halifax Ottawa Toronto London
Winnipeg Regina Calgary Vancouver

YOU MAY OBTAIN CANADIAN CROCKER-WHEELER APPARATUS AND SERVICE ALL ACROSS CANADA.

THE CANADIAN CROCKER-WHEELER COMPANY, LIMITED

Manufacturers and Electrical Engineers

Head Office and Works:
ST. CATHARINES, ONT.

District Offices: Toronto and Montreal

TRADE MARK



Fairbanks Dial Scales

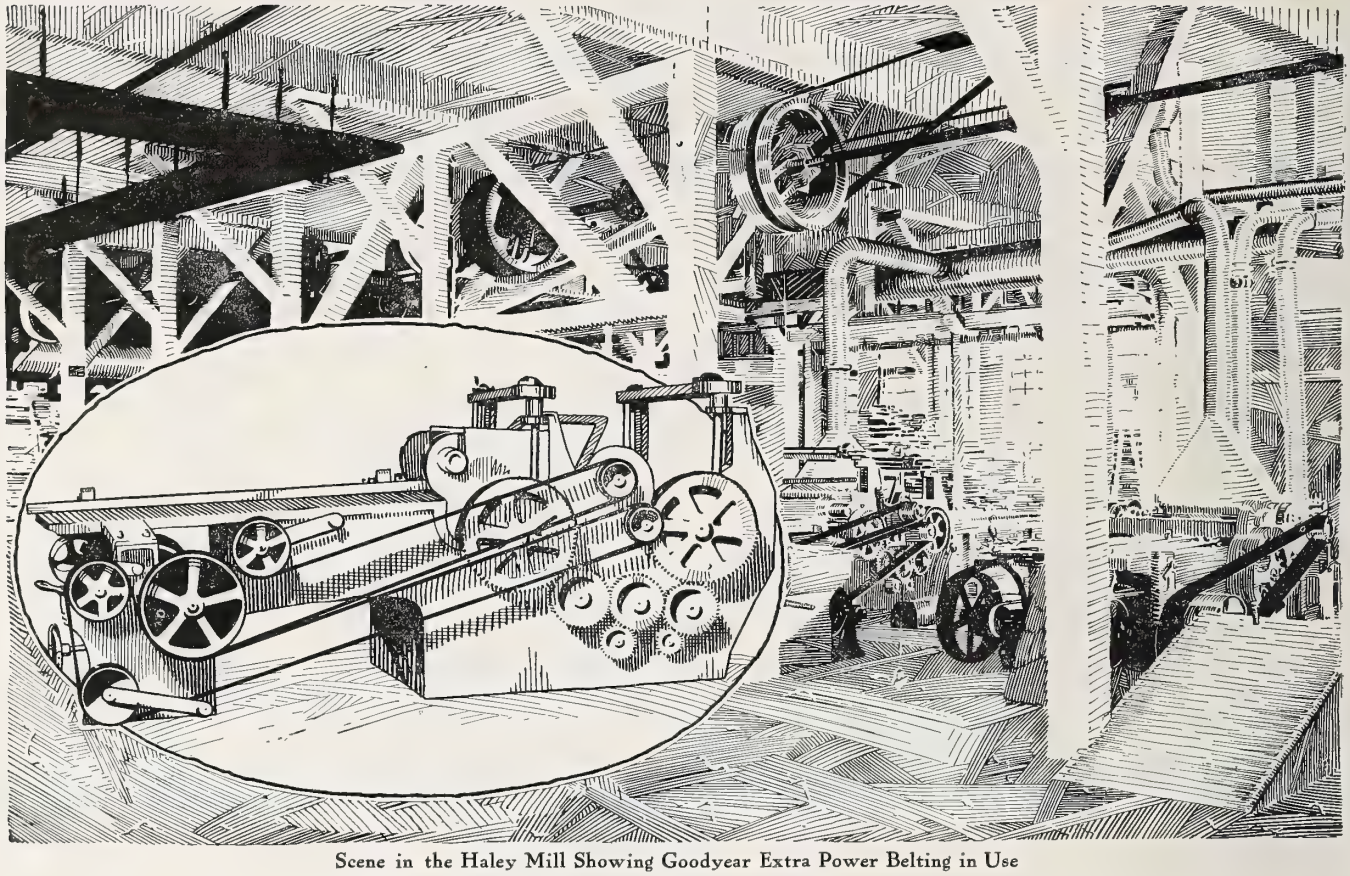
Direct Reading, Gross or Net
Full Capacity
No Loose Weights
No Calculations



The Canadian Fairbanks-Morse Co., Limited

"Canada's Departmental House for Mechanical Goods"

Halifax, St. John, Quebec, Montreal, Ottawa, Toronto, Hamilton, Windsor, Winnipeg
Saskatoon, Calgary, Vancouver, Victoria



Scene in the Haley Mill Showing Goodyear Extra Power Belting in Use

Another Convert

HALEY & SON

Lumber Merchants

St. Stephen, N.B.

Gentlemen:

We want to tell you about the Goodyear Extra Power Rubber Belting we bought for our new mill two years ago and what great satisfaction this Belting has given us. As you are aware, we bought this kind of belting from you for the equipment of our mill throughout, even to planers and matchers. We were skeptical at the time about using this belting on our matchers, especially on the side heads, as that is a very trying place for any kind of a belt. We concluded we would try your rubber belting, as we thought then as a makeshift. Now it has been something over two years since we belted up our matchers with your belting and the original belts are yet on these machines and still giving good service. We thought where this belting of yours had proved so eminently satisfactory that we should tell you just what we thought about it and you know we are giving you this testimonial of Goodyear Extra Power Rubber Belting entirely at our own initiative.

Yours truly,
HALEY & SON.

GOODYEAR
MADE IN CANADA

Almost Unbelievable Power-Saving and Economy

Time and again we have found purchasers of Goodyear Extra Power Belting openly skeptical that it would live up to our promises.

Time and again they have told us not only of lower belting costs, but also of increased and faster production, time and power saved.

Today there is no reason for any plant to buy belting on promises.

On file in our office are letters which enable you to buy belting by proof.

Records of Goodyear Belting performance.

Records of extreme long-life which means economy.

Records of pulley-gripping, non-slip qualities which save power.

Records of work under strenuous conditions of heat, cold, damp, acids.

Records of strength and flexibility.

Records which prove that without Goodyear Extra Power Belting enough power is wasted in Canada every year by poor belts to pay a big dividend on Industry's capital.

Some of this power is being wasted in your plant. Better Belting, scientifically applied, will save you money. Without obligation to you, a belting man, trained by Goodyear, will call and make a record of your needs and experiences. Our recommendation will come from engineers who fit belts to conditions. Phone, wire or write the nearest branch.

The Goodyear Tire and Rubber Co. of Canada, Limited.
Branches—Halifax, St. John, Quebec, Montreal, Ottawa, Toronto, Hamilton, London, Winnipeg, Regina, Calgary, Edmonton, Vancouver.

EXTRA POWER BELTING



Salt Plant, Windsor, Ont.

LEADERS

Chemical products, which have earned their celebrated reputation and proven their value by consistent practical demonstration are the

CAUSTIC SODA
BLEACHING POWDER
and
CHLORIDE OF LIME

Made in Canada

The Canadian Salt Co., Limited
Windsor - Ontario



Chemical Plant, Sandwich, Ont.

Castor Oil

Cocoanut Oils

English Degras

We are direct importers of vegetable oils. Can make immediate delivery of Cocoanut and Castor Oils, English Degras and English Linseed Soap.

DOMINION OIL COMPANY
LIMITED
Royal Bank Building
HAMILTON - - ONTARIO

Write for Prices

on

SINGLE PHASE MOTORS

REPULSION and SPLITPHASE Types

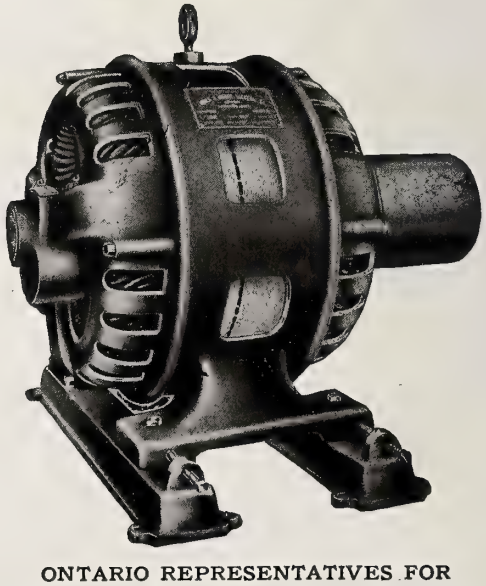
Toronto and Hamilton Electric Co. Limited

99-103 McNab St. N.

Hamilton, Ont.

Jones & Moore Electric Co. Limited

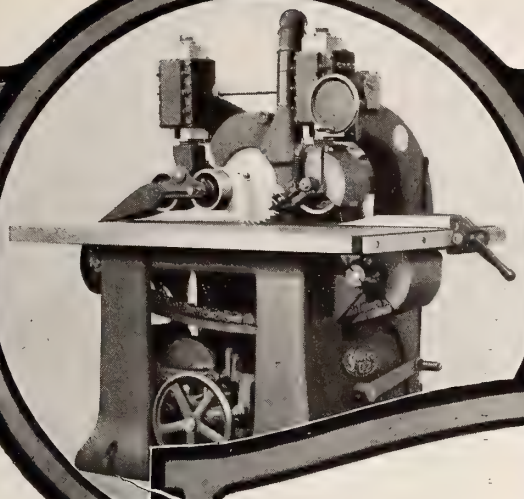
294-300 Adelaide St. West - TORONTO



ONTARIO REPRESENTATIVES FOR

CENTURY ELECTRIC MOTORS

We make Alternating and D. C. Motors and Generators and
REPAIR ALL KINDS OF ELECTRICAL MACHINERY



"The Invariable Choice of the Man Who Knows"

Yates

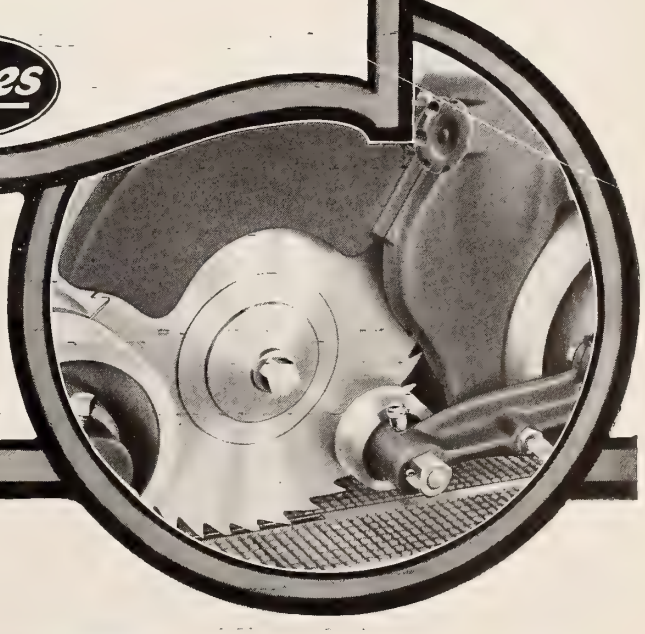
Type G-2 Edging and Ripping Saw

The Yates Type G-2 is the peer of all straight line edging and ripping saws because durability and efficiency are combined to such a degree that it will do better work for a longer period of time than any other machine of its class.

A recently-patented safety device, shown in section below, positively prevents splinters from being thrown back toward the operator.

Send for our illustrated circular on this machine. It contains eight pages of valuable matter for the mill man.

Yates



P. B. Yates Machine Company Ltd.
HAMILTON. ONT. CANADA

U.S. Plant—Beloit, Wis.



Cap and Set Screws

Plain and Castellated NUTS

IN STOCK

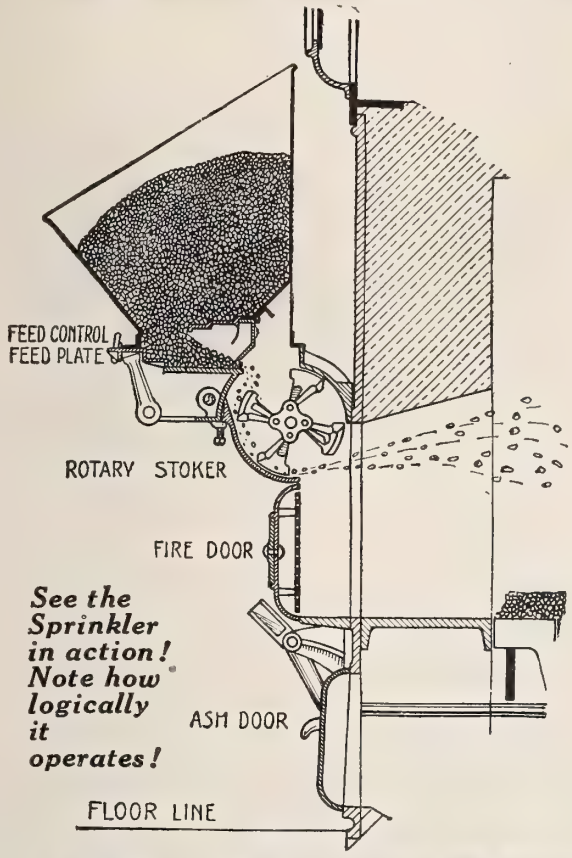
Standard sizes and threads

Special screw machine work made to specifications from Iron, Steel and Brass Bars in sizes up to 2¼ " and 10½" long.

Quotations on your samples or blueprints.

The National Acme Company

De Courcelles and G. T. R. Montreal, P.Q.



See the Sprinkler in action! Note how logically it operates!

THE GALT FOUNDRY CO., Limited

OFFICE AND WORKS:

Galt - - Ontario

THE GALT SPRINKLER STOKERS

For Smokeless and Economical Combustion and Utilizing Low-Grade Fuels.

For Power and Heating Boilers, Annealing Furnaces and other Installations.

Are installed in many of Canada's largest plants and are giving satisfactory results in economy of fuel and operating costs.

Can be installed with any type, size and make of boiler.

Can be quickly installed in existing plants with only minor changes in setting.

Will burn any kind of fuel, from anthracite dust to two and a half inch lump.

Maintain a fuel bed of uniform thickness over entire grate surface.

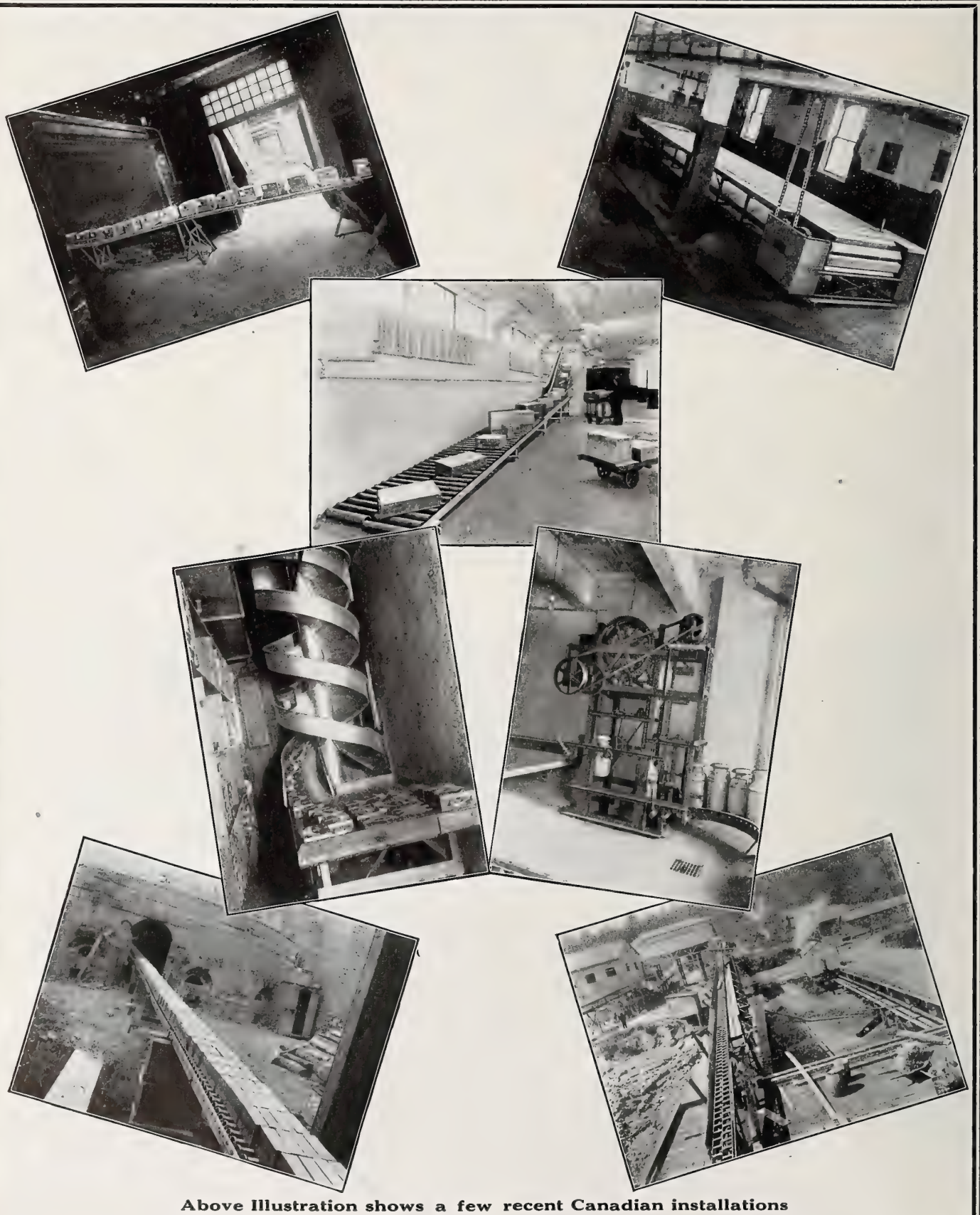
Furnace can be hand fired if necessary without interfering with Stoker.

Simple in construction----maintenance cost very low.

Our combustion engineers are at your service. Ask for Catalogue

We also manufacture the "McNAUGHTON" SECTIONAL ROCKING GRATE BAR and other Shaking Grate Bars





Above Illustration shows a few recent Canadian installations

Canadian Mathews Gravity Carrier Co., Ltd.

Head Office and Factory - - - - PORT HOPE, ONT.

For full information send for Bulletin G.

INDEX TO DISPLAY ADVERTISEMENTS

Adams Cellboard Co. 156
Algoma Steel Corporation, Ltd. 12
Andrews, H. V. 123
Armstrong, Whitworth Co. of Canada, Ltd. 137
Atkins, E. C., & Co. 90
Ault & Wiborg Co. 27

Bank of Montreal 86
Barber-Ellis, Ltd. 94
Barrett Co., Ltd. 48
Bathurst Lumber Co. 107
Beatty, M., & Sons, Ltd. 110
Bennett & Wright Co., Ltd. 8
Bertram, John, & Sons, Ltd. 5
Boiler Inspection and Insurance Co. 144
Booth-Coulter Copper & Brass Co., Ltd., The 111
Bradstreets 88
British American Oil Co., Ltd. Inside front cover
Brown Bros., Ltd. 88
Brown Corporation 144
Brown's Copper & Brass Rolling Mills ... 20
Brown Engineering Corporation 133
Burlington Steel Co., Ltd. 135
Butterfield & Co. 140

Canada Carbide Co., Ltd. 34
Canada Foundries & Forging Co. 110
Canada Machinery Corporation 29
Canada Metal Co., Ltd. 133
Canada Wire & Iron Goods Co. 8
Canadian Appraisal Co. 100
Canadian Bank of Commerce 87
Canadian Blower & Forge Co. 138
Canadian Bridge Co., Ltd. 137
Canadian Carbonate Co., Ltd. 104
Canadian Chicago Bridge & Iron Co., Ltd. 144
Canadian Collapsible Tube Co. 120
Canadian Consolidated Rubber, Ltd. .....
Outside back cover and 35
Canadian Crocker-Wheeler Co., Ltd. 36
Canadian Drawn Steel Co., Ltd. 137
Canadian Fairbanks-Morse Co. 37
Canadian Furnace Co., Ltd. 16
Canadian General Electric Co. 21
Canadian General Fire Extinguisher Co. .. 101
Canadian Hart Wheels, Ltd. 31
Canadian Industrial Alcohol Co., Ltd. 115
Canadian Ingersoll Rand Co. 14
Canadian Link Belt Co. 98
Canadian Mathews Gravity Carrier Co. .. 44
Canadian National Railways 145
Canadian Oil Cos. 80
Canadian Pacific Railway 143
Canadian Rumely Co. 125
Canadian Salt Co., Ltd. 40
Canadian Steel Foundries 121
Canadian Tube & Iron Co., Ltd. 135
Canadian Westinghouse Co., Ltd. 46
Caron Bros. 106
Clarke, A. R., & Co., Ltd. 127
Conduits Co., Ltd. .....Inside back cover
Consolidated Mining & Smelting Co. of
Canada, Ltd. 2
Clyde Motor Truck Co. 25

Dart Union Co., Ltd. 1
Delany & Pettit, Ltd. 93
Dennis Wire & Iron Goods Co. 32
Dodge Mfg. Co., Ltd. 13
Dominion Abrasive Wheel Co., Ltd. 128
Dominion Bridge Co., Ltd. 131
Dominion Copper Products Co. 117
Dominion Forge & Stamping Co. 130
Dominion Foundries & Steel, Ltd. 122
Dominion Oil Co. 40
Dominion Tar & Chemical Co., Ltd. 133
Dominion Wire Rope Co. 137
Doon Twines, Ltd. 139
Dunham, C. A., Co., Ltd. 3
Dupont Fabrikoid Co. 128
Dominion Belting Co. 105
Dominion Sheet Metal Corp. 96

Economy Fuse & Mfg. Co. 6
Eddy, E. B., & Co., The 119
Elder, Dempster & Co., Ltd. 142
Electric Steel & Metal Co., Ltd. 123
Engineering & Machine Works 116
Eureka Mineral Wool & Asbestos Co. ... 123

Foley & Co., Jas. W. 112
Foundation Co., Ltd. 96
Ford Motor Co. of Canada 18

Galt Foundry Co. 43
Galt Knife Co. .....Inside front cover
Galt Malleable Iron Co., Ltd. 120
Gardner, R., & Sons, Ltd. 110
Garlock Packing Co. 111
Gibbons, J. J., Ltd. .....Outside front cover
Gillette Safety Razor Co. 17
Goderich Organ Co., Ltd. 88
Goldie & McCulloch, Ltd., The 19
Goodhue, J. L., & Co., Ltd. 126
Goodyear Tire 23-38-39
Grace & Co., Ltd. 1
Grasselli Chemical Co., Ltd., The 129
Gray, J. V., Construction Co. 123
Greening, The B., Wire Co., Ltd. 30
Gutta Percha & Rubber Manufacturing Co.
of Toronto, Ltd. .....Inside back cover

Hamilton Bridge Works, Ltd. 109
Hamilton Gear Co., Ltd. 6
Hamilton Motor Works 110
Hay Knife Co., Ltd., The Peter 156
Hinde & Dauch Paper Co. of Canada, Ltd.,
The 129
Howard Smith Paper Mills, Ltd. 92
Hoyt Metal Co. 105
Hydraulic Machinery Co., Ltd. 9

Imperial Bank of Canada 86
Imperial Oil Co., Ltd. 33
Inglis, John, Co., Ltd. 22
International Business Machines, Ltd. 82-83

Johnson & Sons, C. H. 117
Jardine, A. B., & Co. 32
Jenkins Bros., Ltd. 10
Jones, J. L., Engraving Co., Ltd. 132
Jones & Moore Electric Co., Ltd. 40
Jones, Underfeed Stoker Co. 3
Joliette Steel Co. 140

Kennedy, Wm. & Sons, Co. 32
Kerr Engine Co., Ltd. 116

Laidlaw Bale-Tie Co., Ltd. 118
Langmuir Mfg. Co. 30
Lauzon Engineering, Ltd. 34
Leonard, E., & Sons 24
Leslie, A. C., Co. .....Inside back cover

Macdonald Manufacturing Co., Ltd. 130
MacKinnon Industries, Ltd. 102
MacKinnon Steel Co., Ltd. 136
Macdonald, W. C., Reg. 118
Maritime Bridge Co. 125
McDonald & Wilson, Ltd. 113
Massey-Harris Co., Ltd. 8
Maples, Ltd. 112
McClary Manufacturing Co. 108
McGregor & McIntyre, Ltd. 114
McLaren, D. K., Ltd. 126
McLaren, J. C., Belting Co., Ltd. 127
Meadows, The G. B., Iron & Brass Works
Co., Ltd. 7
Merchants Bank 89
Milton Hersey Co. 113
Montreal Cottons, Ltd. 139
Montreal Locomotive Works, Ltd. 122
Morris, The Herbert, Crane & Hoist Co.
Ltd. 36
Morrow, John, Screw & Nut Co., Ltd. 119

National Acme Mfg. Co., The 42
New Zealand Shipping Co., Ltd., The ... 142
Nichols Chemical Co., Ltd., The 125
Nicholson File Co. 134
Northern Aluminum Co., Ltd. 80
Northern Crane Works, Ltd. 24
Northern Electric Co., Ltd. 31
Nova Scotia Steel & Coal Co., Ltd. 26

Office Specialty Mfg. Co. 84
Ontario Fire Prevention League 79
Ontario Government Notices 146
Ontario Wind Engine & Pump Co., Ltd. .. 141
Ormsby, A. B., Co., Ltd. 15
Otterville Mfg. Co., Ltd. 125

Pedlar People 26
Penmans, Ltd. 139
Perrin, Wm. R., Ltd. 133
Pratt & Whitney Co. 4
Prest-O-Lite Co. 28
Purdy Mansell, Ltd. 141

Ramsay & Son, A. 136
Richards-Wilcox Canadian Co., Ltd. 2
Ritchie & Ramsay Paper Co. 93
Ridout & Maybee 136
Riordon Sales Co. 88
Rolland Paper Co., Ltd., The 91
Royal Bank of Canada 87

Stinson-Reeb Co. 125
Scythes & Co. 124
Shurly & Derrett, Ltd. 124
Smart-Turner Machine Co. 31
Standard Chemical Iron & Lumber Co. .. 131
Stanley Steel Co., Ltd. 24
Steel Co. of Canada, Ltd., The 99
Steel Trough & Machine Co., Ltd. 144
Stratford Chamber of Commerce 81

Tallman Brass & Metal Co., Ltd. 121
Thorne, Mulholland, Howson & McPherson 88
Thompson & Norris Co. of Canada, Ltd.
Outside back cover
Toronto Hydro-Electric System 141
Toronto Iron Works .....Inside front cover
Toronto & Hamilton Electric Co. 40
Trades & Labor Branch 146

Union Bank of Canada 89
Union Drawn Steel Co., Ltd., The 135

Waterous Engine Works Co. 114
Wells & Gray 103
Willys Overland, Ltd. 11

Yates, P. B. Machine Co., Ltd. 41

For Buyers' Guide see page 147

The Cozy-Glow Radiator



Produces a soft, mellow glow, and throws the heat in any direction.

A trunnion allows the radiator to be adjusted.

A heavy cast-iron base insures firmness.

The radiator is readily moved from place to place.

The heating unit, which is easily removable, is wound around a porcelain cylinder and protected by a copper wire guard.

Owners of Westinghouse Apparatus are invited to make use of our Service Dept. Repair Shops, where repair work will receive prompt and efficient attention.

Repair Shops are located at:
MONTREAL—10 St. Sophie Lane
TORONTO—16 Temperance St.
WINNIPEG—158 Portage Ave. E.
CALGARY—328 9th Ave. W.

Canadian Westinghouse Company, Limited, Hamilton, Ontario

TORONTO, Bank of Hamilton Bldg.
MONTREAL, 285 Beaver Hall Hill
OTTAWA, Ahearn & Soper, Ltd.
HALIFAX, 105 Hollis St.
FORT WILLIAM, Cuthbertson Block
WINNIPEG, 158 Portage Ave. E.
EDMONTON, 211 McLeod Bldg.
CALGARY, Canada Life Bldg.
VANCOUVER, Bank of Ottawa Bldg.

CANADIAN WESTINGHOUSE

INDUSTRIAL CANADA

Issued monthly as the official publication of the Canadian Manufacturers Association (Incorporated), and devoted to the advancement of the industrial and commercial prosperity of Canada.

PRESIDENT OF THE ASSOCIATION

T. P. Howard, Phoenix Bridge & Iron Works, Ltd. Montreal

VICE-PRESIDENTS

J. S. McKinnon, S. F. McKinnon & Co., Limited, Toronto
W. S. Fisher, Enterprise Foundry Co. ..... St. John, N.B.

PUBLISHING COMMITTEE

J.F. MacKay (Chairman), Willys-Overland Limited, Toronto
W. J. Bulman, Bulman Bros., Limited ..... Winnipeg
F. P. Megan, Wm. Davies Co., Limited ..... Toronto
I. H. Weldon, Provincial Paper Mills Co., Limited, Toronto
J. F. M. Stewart, Pointe Anne Quarries, Limited ... Toronto
C. Howard Smith, Howard Smith Paper Mills, Ltd., Montreal

INDUSTRIAL CANADA DEPARTMENT

Advertising Manager ..... D. B. Gillies
Editor ..... W. A. Craick

OTTAWA OFFICE (217 Booth Building)

Representative..... G. M. Murray
Assistant..... E. Blake Robertson

C.M.A. OFFICIALS

Head Office, Toronto

General Manager.....J. E. Walsh
General Secretary.....J. T. Stirrett
Manager, Transportation Department.....J. E. Walsh
Assistant Manager, Transportation Department..S. B. Brown
Managers, Insurance Department..Willis, Faber & Co., Limited
Manager, Tariff Department.....J. R. K. Bristol
Manager, Commercial Intelligence Department..Alex. Marshall
Secretary, Legal Department.....H. Macdonald
Manager, Trade Sections Department.....J. M. McIntosh
Office Manager and Accountant.....J. Winfield

SECRETARIES OF DIVISIONS

Maritime ..... H. R. Thompson. Box 93, Amherst, N.S.
Quebec, W. P. Hughes, 113 Board of Trade Bldg., Montreal
Ontario H. Macdonald, 1404 Bk. of Hamilton Bldg., Toronto
Prairie, G. E. Carpenter, 503 Northern Crown Bank Bldg., Winnipeg, Man.
Pacific, H. Dalton, 705 Board of Trade Bldg., Vancouver, B.C.

CONTENTS OF THIS ISSUE

Editorial Comment 49
Employment Management—National Industrial Conference—Specialized Technical Education—Alberta's Industrial Congress—Lighting Essentials.

News and Views of the Association 52
Executive Council Meeting, St. John—National Industrial Conference —Company Licensing Laws—Fire Prevention Campaign.

Natural Resources of Western Canada .....Col. J. S. Dennis 60
Western provinces have been blessed with immense resources in agricultural land, coal, gas, oil, clay and timber.

Water Powers and Coal Resources in Alberta .....James White, C.M.G. 63
Province does not possess large year-round water powers in vicinity of well-settled sections, but can readily supplement them.

Making Most of Canada's Natural Resources .....R. D. McLaurin 65
Imperative need of the day is a national economic policy based on scientific development of our natural resources.

The Newmarket Explosion—a Danger Signal .....A. E. Edkins 69
Root of the trouble appears to have been action of chemical constituents in fluid drawn from an artesian well.

What has Happened to Our Express Rates .....S. B. Brown 71
A clear explanation of the changes in the basis of rates recently authorized by an order of the Railway Board.

The Plumb Plan of Railroad Administration .....Hon. A. Powerend 76
Critical analysis of a scheme of public ownership of railroads that is receiving attention in the United States.

Office and Finance 85
Good Things from Other Magazines 95
Among the Industries 134
Recent Trade Enquiries 142

SUBSCRIPTION

Two Dollars per Year Single Copies 20 cents
Advertising Rates made known on application

OFFICES

1404 BANK OF HAMILTON BUILDING
TORONTO



20-year Barrett Specification Roof on Foundry Building of Thos. Davidson Mfg. Co., Ltd., Montreal, Can. Arch.: A. W. Robinson, Montreal; Gen. Con.: A. F. Byers & Co., Montreal; Roofers, Hickey & Aubut, Montreal.

A 20-Year Guaranty Roof protects this Canadian Foundry—

A foundry roof has more than weather to withstand. It must be able to resist the intense heat of the furnaces underneath, and showers of red-hot sparks from above.

When the roof on the foundry building shown above was completed we gave the owners a Surety Bond *guaranteeing* their roof to be free from maintenance expense for *20 years*.

In this case the Surety Bond was hardly necessary, for the Thos. Davidson Mfg. Company, Ltd., knew from experience what service to expect, as the following paragraph from their letter to us shows:

"You will no doubt be interested to know we have insisted on Barrett Specification Roofs on all our plants, as our experience has proved it to be in every way satisfactory."

Not only are Barrett Specification Roofs "in every way satisfactory," but they cost less per-year-of-service than any other type of permanent roof, and they take the base rate of fire insurance.

20-Year Guaranty

So sure are we of the service Barrett Specification Roofs will give *under the most severe conditions*, that we are prepared to *guarantee them for 20 years*, in all towns of 25,000 or over, and in smaller places where our Inspection Service is available, provided they are 50 squares or more in area. The guarantee costs you nothing. We merely require that our Specification dated May 1, 1916, shall be strictly followed and that we have an opportunity to send inspectors to watch the job during construction. The guaranty is a Surety Bond issued by a well-known fidelity and guaranty company.

Copies of The Barrett Specification, with roofing diagrams, mailed free on request.

The Barrett Company LIMITED

MONTREAL TORONTO WINNIPEG VANCOUVER
ST. JOHN, N.B. HALIFAX, N.S. SYDNEY, N.S.

INDUSTRIAL CANADA

ISSUED BY

The CANADIAN MANUFACTURERS ASSOCIATION.

INCORPORATED.

Vol. XX. TORONTO, SEPTEMBER, 1919 No. 5

Editorial Comment

Employment Management.

AN experiment is being tried by the University of Toronto in establishing a short course on Employment Management during this month. Instruction is being given daily, except on Saturdays. The course falls into three divisions, namely: Personal Management, Industrial Psychology and Economic Principles and Methods. Two of the lecturers are, Lt.-Col. John J. Coss, of Columbia University, and a member of the War Industries Board of the U.S., and Dr. E. K. Strong of the Carnegie Institute of Technology, Pittsburgh, and a member of the Committee on the Classification of Personnel in the United States Army.

If the University authorities find that the results of the present course justify the efforts which have been made, it is probable that similar courses will be instituted in the future.

Justice Masten's Report on Insurance.

THE report on the Insurance Commission by the Honorable Mr. Justice Masten, Commissioner, has just been issued in pamphlet form by the King's Printer for the Legislative Assembly of Ontario. The preliminary copy of the report was fully analyzed by the Association's Insurance Department and was made the subject of comment in the report of the Insurance Committee to the annual meeting. The Insurance Committee is giving further study to the report in order that the Association's position may be maintained before the Parliamentary Committee, which it is understood will be appointed at the coming session to consider the advisability of legislation in regard to certain features of the report.

Inspection of Risks.

THE Dominion Fire Commissioner, Ottawa, has now organized his Department which provides facilities for the inspection of premises throughout Canada. The Department will arrange to send inspectors to any factory in Canada. These experts will go over the plant and make a report as to the possibility of reducing the danger of fire. This service is given free by the Department, which hopes by this means to reduce the appalling fire waste in this country.

A questionnaire has been issued to all factory owners in Canada asking them for certain information in regard to their premises and insurance. As the Dominion Fire Commissioner is acting in conjunction with the Dominion Fire Prevention Association, on which we have several representatives, it is hoped that our members will co-operate to the extent at least of filling in this questionnaire and returning it.

National Industrial Conference.

THE National Industrial Conference which opens in Ottawa on September 15th will undoubtedly be of great importance in Canadian industry. Without going into greater detail concerning the report of the Royal Commission on Industrial Relations, on whose recommendation this Conference has been called, it may be said that the report of the Commissioners is chiefly a series of demands to give the wage earning class more than they have been getting. In other words, unless production can be stimulated all other classes will get less than they are now receiving, in order that the wage earners may get more. But one of the demands is for shorter hours which means, of course, less production. That is, there is to be less to divide than there is now. Consequently, if the wage earners are to get still more than they are receiving, and if production is to be cut down considerably, it must follow that all classes other than wage earners must accept a serious curtailment if all the demands of labor are to be granted.

It would seem reasonable to suppose that with Europe crying out for our products at the highest prices, the first thing that both employers and employees should consider would be how to increase production in order that there might be more to divide.

Specialized Technical Education.

THE plea for better educational opportunities for textile workers, voiced by Professor A. F. Barker, of Leeds University, who has been making a study of conditions in the textile industry in Canada, has an appeal for all manufacturers. Speaking at a convention of leading members of the industry held in Toronto this month, the

professor declared that manufacturers must see to it that the conditions of practice are attained by means of an efficient school equipment and by offering to prospective students opportunities for further practical experience in the mill during the long vacation.

Among the essential requirements of the industry, if it were to progress, he counted well-trained managers and pioneers, intelligent, interested and conscientious operatives, leading a happy life, well-equipped research laboratories and sheds and a conditioning house and a bureau of standardization which would make practicable scientific accuracy.

Given these, he considered that prospective managers and teachers should receive a university education supplemented by post-graduate study and practical experience. Textile classes in either towns and cities, or in the mills themselves, with travelling libraries, would assist in the accomplishment of this, as would the coupling of fundamental research, the training of researchers and standardization of the industry to Canadian conditions.

As to justification for the contemplation of such a comprehensive scheme in this country, the professor pointed out that the very basis of life had been changed during the past few years, and that much depended on the manner in which the changed outlook was to be faced.

Speaking later in the day, Hon. Dr. Cody, Minister of Education for Ontario, asserted that he believed the time had possibly come when it was necessary to have specialized technical schools, just as we now have schools for the teaching of agriculture exclusively. His request for full information, as to the requirements of the technical industry, indicated a willingness on the part of the authorities to consider the needs of the day.

Are You Keeping in Touch with Your Association?

(From "American Industries")

THE problem of how to reach the proper executive officer of manufacturing companies with important, and many times, action-requiring Association information, concerning legislative or other matters of interest, has been one of the oldest and most aggravating features of the work being done by business men's organizations.

Frequent complaint is heard from many members of business organizations that they are not kept properly informed as to the activities of their associations. This is utilized both as an apology as well as the actual reason for failure by members to co-operate with active organization officers. It is this very condition that often greatly discourages or hampers effective work which might otherwise be successfully accomplished by business men's and employers' associations.

The quantities of mail delivered daily to the executive officers of many manufacturing concerns has at times been described as "an avalanche." In some institutions big clothes baskets are used to receive it and permit its being sorted for distribution. For the most part, second class, or "printed matter" mail is sent to the advertising department, or is superficially examined by some office boy or minor officer, who consigns it mainly to the waste basket on the theory that the "boss must not be bothered with it." This condition of mail matter in manufacturing plant offices is so prevalent that it might prove interesting for many executives to investigate and see for themselves, not alone how much actual mail is received every day, but what is done with a good part of the second class, or "printed matter" portion of it.

Judgment or competency among office employees, in such things as assorting or appreciating relative values of mail matter, is about as easy for "the boss" to control as it is for the average man successfully to supersede the control his wife has over home affairs.

The suggestion is, therefore, made for the consideration of N. A. M. members and those of other business associations, that they arrange to have all bulletins, or association information and correspondence, mailed to their homes. This would enable both Association officials and the members to establish more direct and essential contact with each other. It would likewise greatly enhance the value of organization to the manufacturer as well as increase the effectiveness of such bodies.

A Great South African Exhibition.

A CALL to Canadian manufacturers to take advantage of the opportunity afforded by the Great National Exposition of South African Products and Manufactures to be held next March and April in Pretoria, to show their products in the South African market, is made by W. J. Egan, Canadian Trade Commissioner at Cape Town. Mr. Egan declares that this exhibition at Pretoria, on which half a million dollars will be spent, will give Canadian manufacturers a good chance to display their ability to supply the people of South Africa with much of their import requirements. The only restriction on exhibits of overseas British and allied manufactures is on such goods as clash with domestic products. In so far as Mr. Egan can judge, the only line of Canadian goods which would be refused display would be windmills. The committee in charge are most anxious to place space at the disposal of Canadian manufacturers and a special block of buildings will be provided to house overseas exhibits.

The secretary and general manager of the Exposition is Mr. W. J. Laite, who is well-known in Canada in connection with the South African Manufacturers' Association. The thought suggests itself that Canadian firms, which are already represented in South Africa, should immediately take up the question of making an exhibit with their representatives.

Alberta's Industrial Congress.

BECAUSE the industrial congress recently held in Alberta developed some rather significant features, a good deal of space is being devoted in this issue of INDUSTRIAL CANADA to a report of the proceedings. We are apt to regard the prairie provinces as given over entirely to the pursuit of agriculture. That they also possess possibilities, in their wealth of natural resources, of becoming manufacturing as well as agricultural centres, has been brought home by the enlightenment afforded by the recent congress.

The desire on the part of the citizens of Alberta to see manufacturing developed in their province is commendable. Already, as the visitors found when they inspected the factories of Medicine Hat, manufacturing industry has made notable progress. And one effect of any such development will be to create a more sympathetic attitude on the part of the farmer citizens of the West towards manufacturing in general. They will begin to know and appreciate the difficulties which manufacturers have to contend with and they will experience some of the advantages

which flow from the presence of industries in the community.

Speakers at the congress dwelt on this point and made a direct plea to the agriculturalists on behalf of industry. Mr. Riley, of Winnipeg, uttered a pointed truth when he said, "You've either got to establish industries and factories or you will lose your surplus population in exactly the way that Ontario did. You have built up merchandizing centres in this country; you must start manufacturing centres."

Finley P. Mount, an American manufacturer, who also spoke before the congress declared, "Your farmer must learn as ours has long since learned that industrial development is his best friend and his best paying investment. As the market at his door increases, so will the value of his products and his farm increase. As new industries are built up in your communities, new opportunities for profit and enjoyment of life are created. Your foreign market for your agricultural products is now good, and it is reasonable to suppose it will be a good market for some time to come, but eventually your reliance must be on your home market. A home market is always a better market, a higher and a surer market, and for this reason, if no other, you should see to it that industrial enterprises are built up in each of your local communities. This should be done by building the things your communities most need, and the materials for which are nearest at hand."

Lighting Essentials

IN its campaign to conserve the health and accordingly the efficiency of workers in industrial plants, the Commission of Conservation directs attention to the value of proper illumination of buildings. The lighting of buildings, it declares, must be considered from two aspects, (1) the distribution of daylight admitted through windows and (2) artificial lighting.

As regards daylight, the best method is undoubtedly through skylights, so that all parts of the rooms are lighted about evenly and the light is uniformly diffused. For this reason, many modern factories have been built of only one storey. Owing to high land values and other considerations, such buildings are not always possible. But much can still be done by proper arrangement of work-tables, etc., with relation to the windows. The shadow of the worker's body, head or hands should not be thrown upon his work. Often it may be necessary to supplement the daylight by artificial light which is kept burning all day, but this is a wasteful condition to be avoided wherever possible.

Artificial light has this advantage over daylight, that it is absolutely under our control. One should not imagine that mere brightness or quantity of light constitutes good illumination. On the contrary, a glare is unpleasant and injurious to health. For large areas of work, the light should be overhead and as uniformly diffused as possible, direct glare being avoided by the use of frosted globes. For example, such lighting would be suitable for warehouses. But for some operations, the light needs rather to be focused on the work, for example, for office work, where usually all that is necessary is a desk-light which illuminates the paper without shining directly into the eyes of the writer.

An English author gives the following five tests for good illumination:

1. It must furnish the user sufficient light so that he can see;

2. It must be so placed that it does not cause the user's eyes to change the size of the diaphragm when ordinarily using the light;

3. It must be steady;

4. There shall not be any polished surfaces in its vicinity that will reflect an unnecessary bright spot anywhere that can be seen by the eyes of the worker;

5. It must be protected so that it does not shine in the eyes of some other worker.

DECLARATION OF LABOR PRINCIPLES OF THE NATIONAL ASSOCIATION OF MANUFACTURERS OF THE UNITED STATES OF AMERICA

1. Fair dealing is the fundamental and basic principle on which relations between employers and employees should rest.
2. The National Association of Manufacturers is not opposed to organizations of labor as such, but it is unalterably opposed to boycotts, blacklists and other illegal acts of interference with the personal liberty of employer or employee.
3. No person should be refused employment or in any way discriminated against on account of membership or non-membership in any labor organization, and there should be no discriminating against or interference with any employee who is not a member of a labor organization by members of such organization.
4. With due regard to contracts, it is the right of the employee to leave his employment whenever he sees fit, and it is the right of the employer to discharge any employee when he sees fit.
5. Employers must be free to employ their work people at wages mutually satisfactory, without interference or dictation on the part of individuals or organizations not directly parties to such contracts.
6. Employers must be unmolested and unhampered in the management of their business, in determining the amount and quality of their product, and in the use of any methods or systems of pay which are just and equitable.
7. In the interest of employees and employers of the country, no limitation should be placed upon the opportunities of any person to learn any trade to which he or she may be adapted.
8. The National Association of Manufacturers disapproves absolutely of strikes and lockouts, and favors an equitable adjustment of all differences between employers and employees, by any amicable method that will preserve the rights of both parties.
9. Employees have the right to contract for their services in a collective capacity, but any contract that contains a stipulation that employment should be denied to men not parties to the contract is an invasion of the constitutional rights of the American workman, is against public policy and is in violation of the conspiracy laws. This Association declares its unalterable antagonism to the closed shop and insists that the doors of no industry be closed against American workmen because of their membership or non-membership in any labor organization.
10. The National Association of Manufactures pledges itself to oppose any and all legislation not in accord with the foregoing declaration.

News and Views of the Association

There will be found each month in this department a record of the various activities of the Canadian Manufacturers Association during the preceding month. The information is supplied to INDUSTRIAL CANADA officially, and all members of the Association are urged to acquire the habit of reading and checking over the contents of the department carefully in order to keep themselves posted on the work of the Association

Executive Council Meeting, St. John, N.B.

The President has called a meeting of the Executive Council at the Board of Trade Building, St. John, N.B., Wednesday, October 1st, 1919, 10 a.m.

The semi-annual meeting of the Maritime Division will be held in the Board of Trade Building, St. John, N.B., on the next day, October 2nd, following the meeting of the Executive Council.

Invitations have been issued to all members of the Association in the Maritime Provinces to attend the Executive Council meeting on October 1st. Arrangements have been made, after full discussion with Mr. Angus MacLean, of the Bathurst Lumber Company, Bathurst, N.B., Chairman of the Maritime Division, and Mr. W. S. Fisher, of the Enterprise Foundry Company, Sackville, N.B., 2nd Vice-President of the Association.

In connection with these meetings in St. John, arrangements have been made for certain departmental heads of the Association to make a tour of the Maritime Provinces for the purpose of meeting members and discussing with them certain problems which come within the scope of their department. Meetings will be held at specified points, and members of the Maritime Provinces will be notified when departmental heads will arrive.

The itinerary is as follows:

Sunday, Sept. 28th—Leave Toronto, C.P.R., Union Station, 10.30 p.m.
Monday, Sept. 29th—Arrive Montreal, Windsor Station, 8.00 a.m.
Hold Executive Committee meeting, 10.00 a.m.
Leave Montreal, 7.00 p.m., C.P.R., Windsor Station.
Tuesday, Sept. 30th—Arrive Fredericton, 12.05 p.m.
Meeting in Fredericton.
Leave Fredericton, 8.50 p.m.
Arrive St. John, 11.30 p.m.
Wednesday, Oct. 1st—Executive Council Meeting, Board of Trade Building, St. John, 10.00 a.m.
Thursday, Oct. 2nd—Semi-annual meeting Maritime Division, Board of Trade Building, St. John.
Leave St. John, via Canadian National Railway, 6.10 p.m.
Arrive Moncton, 9.15 p.m.
Friday, October 3rd—Meeting at Moncton.
Leave Moncton 4.30 p.m. via Canadian National Railway.
Arrive Truro, 9.00 p.m.
Saturday, Oct. 4th—Meeting in Truro.
Leave Truro via Canadian National Railway, 1.40 p.m.
Arrive Halifax, 3.40 p.m.
Sunday, October 5th—At Halifax.
Monday, October 6th—Meeting in Halifax.
Leave Halifax, 8.00 p.m. via Canadian National Railway.
Tuesday, October 7th—Arrive Sydney, 9.00 a.m.
Meeting in Sydney.
Leave Sydney, 8.30 p.m. via Canadian National Railway.
Wednesday, Oct. 8th—Arrive New Glasgow, 4.17 a.m.
Meeting in New Glasgow.
Leave New Glasgow via Canadian National Railway, 3.00 p.m.
Arrive Amherst, 8.05 p.m.
Thursday, Oct. 9th—Meeting in Amherst.
Leave Amherst, 12.23 p.m.
Arrive Charlottetown via Sackville and Cape Tormentine, 7.05 p.m.
Friday, October 10th—At Charlottetown.
Leave Charlottetown, 12.50 p.m.
Arrive Sackville, 7.50 p.m.
Leave Sackville, Canadian National Railway, 8.25 p.m.
Saturday, Oct. 11th—Arrive Montreal, 7.55 p.m.
Leave Montreal, Canadian Pacific Railway, 10.00 p.m.
Sunday, October 13th—Arrive Toronto, Canadian Pacific Railway, 8.30 a.m.

The railway fares are as follows:

Toronto to Halifax, going C.P.R. to St. John, thence Canadian National; returning Canadian National to Montreal, thence C.P.R.	$63 95
Montreal to Halifax, going C.P.R., returning Canadian National	43 05
Toronto to St. John, going and returning C.P.R.	50 85
Montreal to St. John, going and returning C.P.R.	29 90

These fares do not include the side trips to Fredericton, Sydney and Charlottetown. Fares for these trips being at follows:

Fredericton Junction to Fredericton and return	$1 50
Sackville to Charlottetown and return	5 70
Truro to Sydney and return	12 85

Members from points west of Toronto may purchase through tickets via G.T.R. to Toronto, thence C.P.R.; and members from points east of Toronto could connect with the party at Montreal.

Local arrangements for the meetings mentioned above are being made by H. R. Thompson, Secretary of the Maritime Division, Amherst, N.S.

National Industrial Conference

Mr. Melville P. White, Canadian General Electric Co., Ltd., Mr. James Merrick, Secretary, Employers' Association of Toronto, and Mr. H. Macdonald, Legal Secretary of the Association, representing our Committee on Industrial Relations, visited Washington recently to study the whole subject of industrial relations in the United States, when valuable information was obtained.

The effect of the forthcoming Conference at Ottawa, and its conclusions will have undoubtedly a very important bearing upon legislative and administrative proposals in this country.

One of the most serious problems confronting industrial management is the competition for the control of its own men by an external force. Management will, therefore, either organize the thought and action of its own men or is likely to have it organized for it. We do not mean by this that in an average establishment management will encourage or permit the organization of an outside Union. On the contrary, it will meet the tendency toward organization by establishing its own form through which it undertakes to develop common interest between men and management in the same enterprise and the same plant.

The test of the legality or morality of any given organization is its purpose and the method by which it seeks to accomplish it. This is the test which is applied to all forms of business. No form of social power should be exercised without corresponding moral and legal responsibility. Therefore, no organization of employers or employees is entitled to social or individual recognition that

refuses to accept responsibility commensurate with its activity. This is fundamental. No form of association, be it that of employers or employees, has a right to exist without willingness to live within the law and under the law.

All agencies can, at this time, perform a distinct public service for Canadian industry by in every possible way bringing to the attention of the public, through the press and otherwise, the importance of sanity and steadiness, of stepping forward in the light of experience and not yielding the future of this country and its present great opportunities to speculative experiment.

Delegates to Industrial Conference

The National Industrial Conference, called by the Government, upon the recommendation of the Royal Commission on Industrial Relations, opens in Ottawa on September 15th. The delegates are divided into three groups: first, those representing employees; second, those representing employers; and third, a group made up of invited delegates from the various other classes in the country, including officials and public men. The delegates are as follows:

Group A—Labour Delegates

Tom Moore, Esq.	United Bro. of Carpenters and Joiners, Ottawa.
P. M. Draper	Int. Typographical Union, Ottawa.
Robert Baxter, Esq.	United Mine Workers of A., Union Street, Glace Bay, N.S.
Arthur Martel, Esq.	United Bro. of Carpenters and Joiners, Montreal.
Tom Izzard, Esq.	Bricklayers, Masons and Plasterers, Toronto.
F. H. Healey, Esq.	Portable and Hoisting Engineers, Niagara Falls, Ont.
Jas. F. Marsh, Esq.	United Bro. of Carpenters and Joiners, Niagara Falls, Ont.
Jos. P. Hunter, Esq.	Bro. Painters and Decorators and Paperhangers, Niagara Falls, Ont.
Jas. Winning, Esq.	Bricklayers, Masons and Plasterers, Labour Temple, Winnipeg.
Fred Bush, Esq.	United Garment Workers of America, Toronto.
S. Noldofsky, Esq.	Int. Ladies Garment Workers' Union, Toronto.
J. H. Kennedy, Esq.	Amalgamated Sheet Metal Workers, Toronto.
W. G. Hunter	Pattern Makers' Association, Toronto.
J. T. Foster, Esq.	Int. Association Machinists, Montreal.
W. G. Powlesland, Esq.	Int. Bro. of Blacksmiths and Helpers, Toronto.
A. C. Hay, Esq.	Bro. Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, St. Vital, Winnipeg.
A. R. Mosher, Esq.	Canadian Bro. of Railroad Employees, Ottawa.
Fred Welsh, Esq.	United Association Plumbers and Steamfitters, Labour Temple, Vancouver, B.C.
R. C. McCutcheon, Esq.	Int. Bro. Boilermakers and Iron Ship Builders, Winnipeg.
J. E. Tighe, Esq.	Int. Longshoremen's Association, St. John, N.B.
T. Jackson, Esq.	United Bro. of Carpenters and Joiners, Toronto.
Jas. W. Frame, Esq.	Int. Bro. of Electrical Workers, Calgary, Alta.
J. L. Bourbonniere, Esq.	Amal. Association Street and Electric Railway Employees, Montreal.
James Drury, Esq.	Int. Typographical Union, Montreal.
R. A. Rigg, Esq.	Int. Bro. Bookbinders, Winnipeg.
W. R. Trotter	Int. Typographical Union, Vancouver, B.C.
A. J. Larden, Esq.	Printing Pressmen and Assistants, Ottawa.
L. J. Rousseau, Esq.	Mine, Mill and Smelting Workers, Thetford Mines, P. Que.
Jos. Gorman, Esq.	Mine, Mill and Smelter Workers, Cobalt, Ont.
E. W. A. O'Dell, Esq.	Boot and Shoe Workers Union, Hamilton.
W. R. Rollo, Esq.	Broom and Whisk Makers Union, Hamilton.
Arthur O'Leary, Esq.	Hotel and Restaurant Employees Int. Alliance and Bartenders Int. League, Toronto.
L. Braithwaite, Esq.	Amal. Meat Cutters and Butcher Workmen of N.W., Toronto.
Jas. Lockwood, Esq.	Int. Bro. of Paper Makers, Sault Ste. Marie, Ont.
Maurice LaBelle, Esq.	Int. Bro. Pulp, Sulphite and Paper Mill Workers, Ottawa.
E. Dalrymple, Esq.	Amal. Association Iron, Steel and Tin Workers, Sault Ste. Marie, Ont.
J. A. Gillis, Esq.	Amal. Association Iron, Steel and Tin Workers, Sydney, N.S.
W. P. Harpur, Esq.	Policemen's Federal Association, No. 26, London.
Henry Bishop, Esq.	Civic Employees Union, No. 30, Edmonton, Alta.
Joseph Sexton, Esq.	Clerical Workers Union, Glace Bay, N.S.
E. S. Woodward, Esq.	Retail Clerks Int. Bro. Assen., Victoria, B.C.
Geo. Smith, Esq.	National Bro. Operative Potters, St. John's, Que.
John A. Flett, Esq.	Federal Unions, Hamilton.
G. R. Melvin, Esq.	Federal Unions, St. John, N.B.
James Simpson, Esq.	Int. Typographical Union and Industrial Banner, Labour Temple, Toronto.
Gus Francq, Esq.	Int. Typographical Union and Labour World, Montreal.
D. A. Carey, Esq.	American Federation of Musicians, Toronto.
(Miss) Doris Meakin	Int. Bro. of Electrical Workers (Telephone Operators), Labour Temple, Winnipeg.
(Miss) H. Gutteridge	United Garment Workers, Labour Temple, Vancouver, B.C.
F. Grierson, Esq.	President Civil Service Federation of Canada, Ottawa.
J. C. O'Connor, Esq.	2nd Vice-President, Civil Service Federation of Canada, Ottawa.
Major M. A. MacInnes	President, Western Canada Interior Association, Saskatoon, Sask.
W. A. MacDonald, Esq.	Vice-President, Dominion Letter Carriers, Association, Hamilton.
S. N. Berry, Esq.	Senior Vice-President, Order of Railway Conductors, Cedar Rapids, Iowa, U.S.A.
J. M. Mein, Esq.	Canadian Railway Board of Adjustment No. 1, Montreal.
Geo. K. Wark, Esq.	Canadian Railway Board of Adjustment No. 1, Montreal.
James Murdock, Esq.	Canadian Railway Board of Adjustment No. 1, Montreal.
Ash Kennedy, Esq.	Canadian Railway Board of Adjustment No. 1, Montreal.
Wm. Dorey, Esq.	Canadian Railway Board of Adjustment No. 1, Montreal.
Jas. A. Sullivan, Esq.	Cigarmakers Int. Union, South Hamilton.
Wm. P. Covert, Esq.	Int. Alliance Theatrical Stage Employees and Moving Picture Machine Operators, Toronto.
H. A. Foucher, Esq.	United Textile Workers, care of Gus Francq, Montreal.
Mrs. Kathleen Derry	Boot and Shoe Workers Union, Toronto.
W. L. Best, Esq.	Legislative Representative, Bro. of Locomotive Firemen and Enginemen, Ottawa.
L. L. Pelletier	Dominion Legislative Representative, Order of Railroad Conductors, Ottawa.

Group B Delegates Representing Employers

1—MANUFACTURING—GENERAL

T. P. Howard	Phoenix Bridge and Iron Works, Ltd.	Montreal, Que.
S. R. Parsons	British American Oil Co., Ltd.	Toronto, Ont.
M. P. White	Canadian General Electric Co., Ltd.	Toronto, Ont.
J. E. Davies	Alberta Foundry and Machine Co., Ltd.	Medicine Hat, Alta.
J. G. Gernant	International Harvester Co. of Canada, Ltd.	Hamilton, Ont.
J. Burns	P. Burns & Co., Ltd.	Calgary, Alta.
E. Parnell	Spiers, Parnell Baking Co.	Winnipeg, Man.
T. R. Deacon	Manitoba Bridge and Iron Works, Ltd.	Winnipeg, Man.
J. B. Thompson	James Thompson & Sons, Ltd.	Vancouver, B.C.
A. B. Weeks	Canadian North-West Steel Co., Ltd.	Vancouver, B.C.
J. J. Coughlan	J. Coughlan & Sons	Vancouver, B.C.

Food Products (other than milling and packing)

G. F. Benson	Canada Starch Co., Ltd.	Montreal, Que.

Woollens

Richard Thomson	Hawthorn Mills	Carleton Place, Ont.

Garment Manufacturers

J. S. McKinnon	S. F. McKinnon & Co., Ltd.	Toronto, Ont.

Cottons

F. G. Daniels	Dominion Textile Co., Ltd.	Montreal, Que.

Lumber and Timber

Angus McLean	Bathurst Lumber Co., Ltd.	Bathurst, N.B.

Manufacturers of Lumber and Timber

John R. Shaw	Canada Furniture Mfrs., Ltd.	Woodstock, Ont.

Printing, Publishing and Bookbinding

W. J. Bulman	Bulman Brothers, Ltd.	Winnipeg, Man.

Rubber

C. H. Carlisle	Goodyear Tire & Rubber Co. of Canada, Ltd.	Toronto, Ont.

Chemicals and Allied Products

E. G. Henderson	The Canada Salt Co., Ltd.	Windsor, Ont.

Clay, Glass and Stone Products

F. P. Jones	Canada Cement Co., Ltd.	Montreal, Que.

Tobacco and its Manufactures

W. T. Gregory	Imperial Tobacco Co.	Leamington, Ont.

Vehicles for Land Transportation

G. M. McGregor	Ford Motor Co. of Canada, Ltd.	Ford, Ont.

Oils, Paints and Varnishes.

Dr. D. Strachan	Imperial Oil Co., Ltd.	Sarnia, Ont.

Leather and its Products.

Hon. E. J. Davis	Davis Leather Co., Ltd.	Newmarket, Ont.

Machinery

Henry Bertram	John Bertram & Sons, Co., Ltd.	Dundas, Ont.

Shipbuilding

H. B. Smith	Collingwood Shipbuilding Co., Ltd.	Collingwood, Ont.
R. W. Wolvin	Halifax Shipyards, Limited	Montreal.

Pulp and Paper

F. A. Sabbaton	Laurentide Co., Ltd.	Grand Mere, Que.
T. B. Wilson	Spanish River Pulp & Paper Co.	Sault Ste. Marie, Ont.

Milling

A. E. Labelle	St. Lawrence Flour Mills Co., Ltd.	Montreal, Que.
N. C. Sinclair	Empire Flour Mills, Ltd.	St. Thomas, Ont.

Packing

J. S. McLean	Harris Abattoir Co., Ltd.	Toronto, Ont.
O. W. Waller	Swift Canadian Co., Ltd.	Toronto, Ont.

Steel and Iron

F. H. Whitton	The Steel Co. of Canada, Ltd.	Hamilton, Ont.
Mark Workman	Dominion Steel Corporation	Sydney, N.S.

Supplementary delegates who may be used as substitutes to replace any of the above:

H. I. Thomas	Care of J. R. Booth	Ottawa, Ont.
W. J. Sadler	Sadler & Haworth	Montreal, Que.
T. A. Russell	Russell Motor Car Co., Ltd.	Toronto, Ont.
M. V. Ladd	Dominion Bridge Co., Ltd.	Montreal, Que.
W. S. Fisher	Emerson & Fisher	St. John, N.B.
L. W. Sims	T. S. Sims & Co., Ltd.	St. John, N.B.
Thos. Findley	Massey-Harris Co., Ltd.	Toronto.
S. Harris	Harris Lithographing Co.	Toronto.
A. Sommer	A. Sommer Co., Ltd.	Montreal, Que.
Alex. Welsh	British American Ship Co.	Welland, Ont.
James Whalen	Port Arthur Shipyards	Port Arthur, Ont.
W. A. Lawson	Bemis Bros. Bag Co.	Winnipeg, Man.
W. A. McKay	The Codville Co., Ltd.	Winnipeg, Man.
Wm. Martin	Manitoba Gypsum Co., Ltd.	Winnipeg, Man.
D. Kyle	Algoma Steel Corporation	Sault Ste. Marie, Ont.
Victor Ross	Imperial Oil, Ltd.	Toronto.
A. A. Bittues	Gillette Safety Razor Co. of Canada, Ltd.	Montreal, Que.
J. L. Waldie	Canadian Tube and Iron Co., Ltd.	Montreal, Que.
Julien C. Smith	Canada Carbide Co., Ltd.	Montreal, Que.
Wm. Rutherford	Wm. Rutherford & Sons, Ltd.	Montreal, Que.
W. S. Fallis	Sherwin Williams Co. of Canada, Ltd.	Montreal, Que.
Geo. Henderson	Brandram-Henderson, Ltd.	Montreal, Que.
P. L. Miller	Canadian Vickers, Ltd.	Montreal, Que.
B. W. Coghlin	B. J. Coghlin & Co.	Montreal, Que.

3—EMPLOYERS AND OTHER MANUFACTURERS

Canadian Mining Institute

D. H. McDougall	Nova Scotia Steel & Coal Co., Ltd.	New Glasgow, N.S.
B. Neilly	Penn-Canadian Mines, Ltd.	Cobalt, Ont.
Geo. R. Smith	Bell Asbestos Mines	Thetford, Que.
O. E. Whiteside	International Coal and Coke Co.	Coleman, Alta.

Union of Canadian Municipalities

Alderman C. H. Grant	Edmonton, Alta.
Arthur Roberts, K.B.	Bridgewater, N.S.
Mayor T. D. Bouchard	St. Hyacinthe, Que.

Canadian Electrical Association

A. Monro Grier, K.C.	Canadian Electrical Association, 12 Adelaide St. E.	Toronto.

Bell Telephone Company

J. E. Macpherson	Bell Telephone Co.	Ottawa, Ont.

Credit Men's Association

Geo. B. Fraser	Greenshields, Limited	Montreal, Que.
Hugh Blain	Eby-Blain Co., Ltd.	Toronto.
J. H. Ashdowne	J. H. Ashdowne Hardware Co., Ltd.	Winnipeg, Man.

Shipping Federation of Canada

Thos. Robb	Shipping Federation of Canada	Montreal, Que.

Pacific Coast Shipping Interests

G. M. Bosworth	Chairman, Pacific Coast Shipping Interests	Montreal, Que.

Association of Canadian Building and Construction Industries

E. R. Reid	Engineers and Contractors, Ltd.	St. John, N.B.
Col. J. A. Little	Thunder Bay Harbour Improvement Co.	Port Arthur, Ont.
H. T. Hazelton	Winnipeg Builders' Exchange	Winnipeg, Man.
Fred Armstrong	F. Armstrong, Co.	Toronto.
J. P. Anglin	Anglin Ltd.	Montreal, Que.

Canadian Railway Board of Adjustment

A. D. MacTier	Montreal, Que.
G. C. Jones	Montreal, Que.
F. P. Brady	Montreal, Que.
S. J. Hungerford	Montreal, Que.
Geo. Hodge	Montreal, Que.
A. J. Hills	Montreal, Que.

Canadian Electric Railway Association

G. Gordon Gale	Hull Electric Co.	Hull, Que.

Canadian Fisheries Association

A. H. Brittain	Maritime Fish Corporation	Montreal, Que.
H. A. Hager	Canadian Fishing Co.	Vancouver, B.C.

Group C—Delegates Representing Other Interests

Chief Justice Mathers	Court of King's Bench, Winnipeg, Man.
Carl Riordon, Esq.	President, Riordon Pulp and Paper Co., Montreal, Que.
Charles R. Harrison, Esq., M.P.	Railroad Conductor, North Bay, Ont.
J. W. Bruce, Esq.	Toronto, Ontario.
Hon. W. L. Mackenzie King	Roxborough Apartments, Ottawa.
Hon. Smeaton White	The Gazette, Montreal, Que.
F. A. Acland, Esq.	Deputy Minister of Labour, Ottawa, Ont.
Calvin Lawrence, Esq.	Kenilworth Apartments, Elgin Street, Ottawa.
Wills MacLachlan, Esq.	301 Excelsior Life Building, Toronto.
H. J. Daly, Esq.	72 Warren Road, Toronto, Ont.
G. Frank Beer, Esq.	54 Glen Road, Toronto, Ont.
Col. David Carnegie	Offices of the War Cabinet, No. 2 Whitehall Gardens, London, S.W. 1, England.
W. D. Tate, Esq.	Care of Repatriation and Employment Committee, Plaza Building, Ottawa.
Col. Thos. Candley	Nova Scotia Steel and Iron Co., New Glasgow, N.S.
J. A. Stevenson, Esq.	Care of Repatriation and Employment Committee, Plaza Building, Ottawa.
F. Pauze, Esq.	Lumberman, Montreal, Que.
R. B. Maxwell, Esq.	Vice-President G.W.V.A. of Canada, Plaza Building, Ottawa.
John Lowe, Esq.	Manager, Montreal Cotton Mills, Valleyfield, P. Que.
H. Mortimer-Lamb, Esq.	Secretary, Canadian Mining Institute, 503 Drummond Street, Montreal, Que.
R. R. Grant, Esq.	302 Avenue Road, Toronto, Ont.
Alfred Burton, Esq.	Hon. Secretary, Society of Chemical Industry, 114 Bedford Road, Toronto, Ont.
Charles A. Magrath, Esq.	Chairman, International Joint Commission, Ottawa.
F. E. Ewart, Esq.	American Institute of Electrical Engineers, 212 King Street West, Toronto, Ont.
Sir John Willison	President, Canadian Reconstruction Association, Royal Bank Building, Toronto, Ont.
Alderman C. H. Grant	Edmonton, Alberta.
Arthur Roberts, K.C.	Bridgewater, N.S.
Mayor T. D. Bouchard	St. Hyacinthe, Que.

Agricultural Representatives

J. A. Ruddick	Dairy and Cold Storage Commissioner	Ottawa, Ont.
H. F. Arkell	Live Stock Commissioner	Ottawa, Ont.
Geo. H. Clark	Seed Commissioner	Ottawa, Ont.
W. S. Blair	Fruit Expert	Kentville, N.S.
W. A. Brown	Live Stock Branch, Department of Agriculture	Ottawa, Ont.

Company Licensing Laws

His Majesty's Privy Council has granted leave to appeal in the three test cases which were instituted by the Association for the purpose of testing the validity of the company licensing laws of the provinces of Saskatchewan, Manitoba and Ontario. The three cases have been ordered to be consolidated in one appeal, the effect of which will be to make the cases practically a reference on the whole subject of company licensing, so that it is likely that a broad judgment will be obtained determining the questions arising not only on the particular acts in question but also the acts of the other provinces. In view of the proposed appeal it is not likely that any serious attempt will be made in any of the provinces to enforce the licensing acts as against Dominion companies.

Fire Prevention Campaign

The attention of members is directed to the "Fire Prevention and Clean-up Campaign," which is being launched throughout the North American continent during the week of October 9. In Ontario, the task of promoting the campaign is being undertaken by the Ontario Fire Prevention League, of which George F. Lewis, Deputy Fire Marshal, is Secretary. The League is doing all in its power to impress on the public the importance of co-operating in the movement to restrict the appalling fire loss which is daily consuming $42,000 worth of property in Ontario alone. To manufacturers in particular the appeal is being made that they should provide better and more systematic inspection and watchman service and more efficient fire-fighting equipment. While only 5 per cent. of the total number of fires in 1918 occurred in industrial plants, these occasioned 48 per cent. of the total fire waste of the province. To assist in making the campaign a success will be most meritorious work on the part of all manufacturers.

Recent Activities of the Prairie Division

By G. E. CARPENTER
Secretary, Prairie Provinces Division, C.M.A.

A WELL-ATTENDED meeting of members of the various branches of the Division in Alberta was held at Calgary on August 13th, when members had the pleasure of a conference with the General Manager of the Association, Mr. J. E. Walsh, upon many matters of importance to the general membership of the Association, and particularly those doing business in Alberta. At this meeting it was decided to continue the practice of holding general meetings of all members in Alberta and that the next meeting should be held in Edmonton at the time of the next session of the Legislature, when steps will be taken to perfect the organization in Alberta.

The members of the Medicine Hat and Winnipeg Branches also availed themselves of the visit of the General Manager to hold general meetings when he outlined the re-organization that had taken place in the Association, with a view of affording better service to the membership.

Labor Situation Improves

The past month has seen considerable improvement in the general labor situation in Winnipeg and in fact, Western Canada generally. Apparently the saner element in labor ranks did not take the interest that it might have done in its organization's affairs in the past, but like others was prepared to "Let George do it," with the result that the more radical element gained control. Now that the saner element sees the result of its indifference, there is every indication from reports from the Prairie Provinces that the larger body of labor is asserting itself and that conditions are improving steadily. Probably the most notable example of this happened at Drumheller where the O.B.U. officials were persuaded to take a permanent holiday. It remains now for Civic, Provincial and Dominion Governments to look ahead and place orders for next year's operations early so that as much work as possible may be done this winter and employment provided for large numbers of men. Otherwise we may be faced with a serious situation.

Saskatchewan Minimum Wage Board Award

The following decisions of the Saskatchewan Minimum Wage Board were recently announced in Regina:

First six months—Factories, $9.50; stores, shops, $9.50; made-to-order houses, $8.00.

Second six months—Factories, $11.00; stores, shops, $11.00; made-to-order houses, $10.00.

Third six months—Factories, $12.50; stores, shops, $13.00; made-to-order houses, $12.00.

After eighteen months—Factories, $14.00; stores, shops, $15.00; made-to-order houses, $14.00.

Length of week—Factories, 50 hours; stores, shops and made-to-order houses, 48 hours.

In connection with retail stores, the latest decision of the Board amends the finding of a week earlier by lengthening the period of apprenticeship from twelve to eighteen months.

Winnipeg Cartage Service

At a meeting of the Shippers' Bureau of the Winnipeg Board of Trade on August 18th, in order to assist improving the railway companies' service with a view to lessening the congestion of the freight at Winnipeg as the result of the general strike, an arrangement was agreed to with the representatives of the cartage companies under which shippers would pay an additional charge where teams were delayed by them over the prescribed limit. In a like manner shippers are to be credited with delays upon the part of the cartage companies. In order to deal with disputes arising under this arrangement a Board was appointed to be constituted of representatives of the cartage companies, the Manager of the Transportation Division of the Board of Trade and the Secretary of the Prairie Division of the C. M. A. The arrangement will become operative as soon as the cartage companies can get the necessary forms printed. In the meantime the cartage companies advise that there has been a marked improvement in the loading and unloading of teams.

Telegraph Rates Under Consideration

Telegraph companies operating in Canada have applied to the Board of Railway Commissioners for authority to increase the tolls now charged for telegraph service, which were authorized by the Board of Railway Commissioners in March, 1906, and which brought about a substantial reduction in the tolls previously in effect. In support of this application the telegraph companies state that the increased cost of labor and material, amounting to 85 per cent. and 60 per cent., respectively, has so added to the expense of maintenance and operation that the revenue derived from the present tolls is inadequate and that, if the furnishing of the telegraph service is to be continued unimpaired, there must be a substantial increase in tolls. This matter is receiving the attention of the Transportation Committee of the Division and members are invited to communicate their views to the Secretary in order that the Committee may have the benefit of the advice of the members.

Winnipeg Housing Scheme

After much talk and a great deal of delay, the Winnipeg City Council has decided to avail itself of the Government's offer and has made application for an allotment of one million dollars to be loaned to citizens for the erection of dwellings. It is planned to loan 85 per cent. of the value of the dwelling, not to exceed four thousand dollars, at 6 per cent. interest, repayable in instalments extending over twenty years. This plan is conditional upon the citizens of Winnipeg subscribing a fund amounting to 10 per cent. of the money loaned by the City, thus reducing the City's direct liability to 75 per cent. of the value of the home. It is believed that this is the first municipality in Canada that has made the adoption of the Housing Scheme conditional upon some of the citizens subscribing a fund and bearing a portion of the risk for the monies advanced by the City. However, as there is a great need for homes and as much unnecessary delay has already taken place, it is held that the attitude taken by the City Council should not result in the plan being further held up and that the 10 per cent. fund will be subscribed readily. In this connection it is felt that the manufacturers will no doubt be glad to do their share and members in Winnipeg are requested to give the matter favorable consideration and communicate with Mr. E. Parnell, of the Speirs Parnell Company.

Demurrage During Strike

Railway companies in Winnipeg reduced demurrage charges accruing on cars placed on sidings where delay occurred in loading and unloading during the strike, from the regular

scale of charges ranging from one to five dollars per day to one dollar per day flat. However, members felt that in view of the fact that the delay was caused by circumstances over which they had no control and in view of the widespread nature of the Winnipeg strike that the railways should be willing to extend to shippers the same terms that the railways are granted under the conditions of carriage embodied in the bill of lading, approved by the Railway Commission, which relieves the railway company from responsibility for delay accruing as a result of strikes. On taking the matter up with the Transportation Department of the Association, members have been advised not to pay demurrage charges accruing during the strike under the above conditions.

A committee from the Winnipeg Board of Trade and this Division has taken the matter up with the Car Service Department of the railways and the Western Committee of the Canada Railway War Board, contending that demurrage charges assessed during the strike should be treated in the same manner as those assessed during the influenza epidemic, where under an Order of the Railway Commission the railways were instructed to afford relief to shippers where delay occurred through the "Flu" and every reasonable effort had been made to load or unload the cars in question. It is hoped that the matter will be disposed of along these lines, but failing this it may be necessary to appeal to the Board of Railway Commissioners.

Made in Canada Movement Gains Strength

By SIR JOHN WILLISON
President, Canadian Reconstruction Association

PUBLIC concern for the development of the home market increases daily, and there is healthy, popular support of the Made in Canada movement. Neaarly 4,000,000 of the specially designed Made in Canada cards, issued by the Canadian Reconstruction Association are now in circulation. By the end of this month the total initial issue of 5,000,000 should be exhausted. The campaign continues to meet with warm approval from commercial and industrial interests. Manufacturers, wholesalers, and retailers are all supporting the movement, and there is no question that the cards are being given wide circulation to householders throughout the Dominion. Nearly half a million cards in French are now being circulated in Quebec. A recent report from the Secretary of our Western Committee, which has just asked for an additional half million cards, shows that in the western provinces manufacturers alone have already taken 632,000 cards, distributed as follows:—

Manitoba	95 firms	283,250	cards
Saskatchewan	22 "	32,500	"
Alberta	73 "	140,900	"
British Columbia	105 "	175,100	"

The Association has received scores of letters endorsing its Made in Canada activities. One firm manufacturing corks, corkwood, etc., says: "It will give us great pleasure indeed to insert these cards in our letters, invoices, pay-envelopes, etc., as we are in hearty accord with any movement that will assist in increasing the purchase of Made in Canada goods, thus building up our own country and assuring continued steady employment of our fellow-citizens in Canada."

A manufacturer of heating and cooking stoves and ranges, says: "It is no doubt a splendid way of bringing before the public the necessity of purchasing goods made at home, and we believe that it will prove very effective."

Another firm writes: "We believe that it will benefit the country and incidentally ourselves to give these appeals a widespread publication."

A milling company, asking for 2,000 cards, promises to do its best to help along the good cause. A printing company says: "We congratulate you on the campaign and hope it will be successful. You can command us at any time to help along with this work."

A firm of mining, metallurgical and industrial chemists says: "We strongly advocate Made in Canada propaganda and will do all we can to further the interests of the home markets." A French-Canadian firm says: "We are at your disposition as helpers in the movement which we appreciate highly."

Support of the movement is not confined to industrial interests. The Canadian Club of Hamilton, for instance, has asked for 5,000 cards and believes they can be used to advantage by its secretary in sending out notices, etc. Indeed the campaign should receive the support of agricultural, financial, commercial, and transportation interests as well as of industrial companies. Throughout the world other countries are pursuing a similar policy of home market development. Great Britain is protecting home industries, so are Australia and South Africa. Japan is following an extreme policy of protection. France has recently decreed increases in protective duties ranging as high as 200 per cent. Italy is following a comprehensive policy of import restrictions. Spain is to revise her tariff next month and it is expected that she will take extensive measures to protect the home market. In the United States no less than 22 bills have been introduced in the House this session calling for higher duties. Canada cannot afford to ignore the international economic movement, particularly when Canadian money is at a discount of 3½ per cent. in New York, and as high as 6 and 10 per cent. in many stores on the border. The balance of trade with the United States is against the Dominion to the extent of over $20,000,000 a month. Imports can only be reduced and the balance of trade corrected by supporting the home market and buying Made in Canada goods. Until that is done Canadian money will remain at a discount.

Capt. Robert Dollar, head of the Dollar Steamship Company, addressing the Industrial Congress at Calgary, said: "My ships are continually plying in and out of Vancouver, but only one-tenth of what they bring in stays in Canada. The balance goes to Seattle and Chicago and Detroit, and later finds its way back across the line to Canada, in the form of manufactured goods. Wake up, you Canadians! You should be ready to take that raw material and turn it into the finished product for your own use, instead of paying all those profits to your competitors across the line."

Canada should wake up indeed. We need not only a public policy of buying in the home market, but Canadian raw and semi-manufactured materials should be used in primary and secondary processes of manufacture. With domestic production of all-Canadian goods, industrial activity would be stimulated, a large new market would be opened for Canadian labor and hundreds of millions of dollars now lost to the Dominion through the export of unfinished products would be saved to the country.

Alberta Proclaims Wealth of its Resources

Unique Gathering for the Purpose of Making Known to Eastern Canadians and Americans the Extent of the Province's Natural Resources, and Urging their Development is Staged by Alberta Industrial Development Association

By G. E. CARPENTER

Secretary, Prairie Division, C.M.A.

Special Representative of "Industrial Canada" at the Congress

FROM the standpoint of making known to a large number of men representing important industrial and financial interests in Eastern Canada and the United States, the immense and varied natural resources of Alberta, and in fact of all three prairie provinces, the Industrial Congress, promoted by the Alberta Industrial Development Association, and held during the week of August 11th in the cities of Medicine Hat, Lethbridge, Calgary and Edmonton, must be recognized as a distinct success. No effort was spared to inform the delegates from the east and south of the great potentialities of the province, and by personal contact, whenever possible, to place them in touch with those sources of wealth now awaiting development. The affair was unique of its kind. It will undoubtedly be repeated and may indeed become an annual event, with an ever widening sphere of influence.

Considerable disappointment was expressed by the Executive Committee of the Development Association and by several of the speakers, over the relatively small attendance of Canadians from Winnipeg and the East. It was unfortunately true that there were more people present from the United States than from Canada, outside Alberta itself. Possibly when the complete proceedings are printed and circulated and a better idea is obtained of the aims and objects of the Industrial Development Association, a larger number of Canadians will find it desirable to attend another year.

Favorable Publicity for Association

One of the pleasing features of the Congress was the favorable publicity which was given to the Canadian Manufacturers' Association through the presence and speeches of Mr. J. E. Walsh, the general manager, as well as through the remarks of Hon. Gideon Robertson, Minister of Labor, who gave the members of the Association a certificate of character for fair-dealing with their workmen.

When delegates from the east and south rolled down Dunmore hill into what seemed intended by nature to be a sleepy hollow, they were amazed at the extent of the industries created by the enterprising citizens of the "Gas City" of Medicine Hat.

The power question is solved for manufacturers at the Hat by nature, which provides natural gas in unlimited quantities. It is sold to plants by the city at a rate of 5 cents per 1,000 cubic feet. Fifteen thousand cubic feet of this fuel is equal to one ton of steam coal. In other words, as one local manufacturer tersely put it, "If we were supplied with steam coal for nothing, the cost of handling it and the resultant ash would be greater, and it would be far more inconvenient."

On the afternoon of Monday, the first day of the provincial tour, Mayor Brown, of the Hat, took the delegates in charge, and fifty citizens placed their automobiles at the disposal of the visitors for the purpose of showing them the industries of the city.

The first plant visited was that of the Medalta Stoneware Co., of which Charles Pratt, the chairman of the Medicine Hat Branch of the Canadian Manufacturers' Association, is president. The Medalta Stoneware Company use twelve tons of clay daily, which they bring 200 miles from a point in southern Saskatchewan for the purpose of making crocks, jugs, churns, bowls, etc. This company has captured the western Canadian market, which was formerly supplied by the United States, and is now shipping into Ontario. The company also produces flower pots from local clay.

Production of Linseed Oil

The next plant visited was that of the Alberta Linseed Oil Mills, where 1,000 bushels of flax seed is used daily in making 50,000 gallons of linseed oil a month. The by-products, linseed oil meal and cake, find a ready market in the northern part of the prairie provinces, which are going more and more into mixed farming. Mr. W. A. Church, the honorary secretary of the Medicine Hat Branch, is manager of this company.

The Alberta Foundry & Machine Co., J. E. Davies president, which did its "bit" in turning out munitions during the war period, has entirely remodelled its plant for the manufacture of a farm tractor which they have named the "Canadian." The courage of the West is exemplified by this company's enterprise, notwithstanding the continual cry of the prairie farmers for "free tractors." The company intends to place 1,000 of these tractors on the market for next year's use.

Another company in Medicine Hat has also turned its attention and energies to tractor manufacture, viz., Martin & Phillips, who are making the "Stinson."

While the cessation of municipal work and building of all kinds during the war must have had a great effect in curtailing their market, the Alberta Clay Products Company, which make brick, hollow tile and vitrified sewer pipe, have continued their operations right along, and have now a large stock on hand to meet future requirements.

The Medicine Hat Brass & Pump Company have a large, busy factory for the manufacture of iron pumps and farm windmills to be used in connection therewith.

The Tabor Candy Company's plant was visited also, and there, the ladies in the party especially, were treated to a fine, fresh sample of the "Taberta" brand of candies and shown the sanitary conditions under which they are produced.

A Great Flour Milling Centre

Medicine Hat is the largest flour milling centre in Alberta, and no tour of its industries would be complete without a visit to the modern plants of the Ogilvie Flour Mills Co., the Lake of the Woods Company, and the Maple Leaf Milling Company. These mills have a combined capacity of between 4,000 and 5,000 barrels a day.

Owing to lack of time, the delegates did not have an opportunity of visiting the many other factories in the Hat, but were driven over to the neighboring city of Redcliff and spent an enjoyable hour looking over its industries, the principal of which were the large rolling mills of the Cana-



Leaders in the Fields of Industry and Finance who

dian Western Steel Company, where an open hearth furnace has recently been added to the equipment.

At the Dominion Glass Company's plant visitors were entertained with a demonstration of an almost human machine which reaches into a furnace of molten glass, picks up a lump and casts and blows it into a finished bottle.

The coal mine of the Redcliff Brick & Coal Co. attracted a lot of attention from the visitors, who realized that this district is doubly blessed in its two principal natural resources, gas and coal.

In the evening the Medicine Hat Board of Trade entertained the visiting delegates at a banquet, which was served by the young ladies of the city, in the curling rink. Acting-Mayor Huckvale presided, and extended an official welcome to the visitors.

The first speaker, Col. Nelson Spencer, M.L.A., dealt with Alberta's future development, stating that in 14 years the value of its manufactured products had increased from $65,000 to $400,000 per annum. He dwelt upon the fact that Alberta contained one-fourth of the arable lands of Canada, and one-seventh of the known coal resources of the world.

Speakers Express Appreciation

James Ramsay, M.L.A., Edmonton, followed along similar lines, and the appreciation of the American visitors was expressed by R. C. Haskins, Vice-President of the International Harvester Co. of America, Chicago; Mr. Hill, manager of the Business Men's Bureau of the Chicago Chamber of Commerce; and Mr. Thorn, representing Montgomery Ward Co., Chicago.

D. W. Hays, President of the Canada Land & Irrigation Co., spoke upon the extent of irrigated lands in southern Alberta, which, he stated, comprised 1,000,000 acres.

D. C. Coleman, Vice-President, Canadian Pacific Railway, referred to that company's large investment in southern Alberta, and expressed confidence in its future.

J. E. Walsh, General Manager, Canadian Manufacturers' Association, referred to the growth of manufacturing enterprises in Western Canada, as evidenced by the fact that three years ago the membership in the Association in the prairie provinces was less than 200, whereas to-day it stands at over 550. He also quoted figures showing the large increase in capital invested in factories in the Prairie Provinces, the number of workpeople employed, the varied articles made and the value of the products.

E. Leonard, of E. Leonard & Sons, advocated the taking of the tariff question out of the hands of designing politicians and placing the matter of tariff regulations and customs duties under a Board representing all classes of citizens for careful study and scientific adjustment. His remarks met with considerable applause, and were ably seconded by M. J. Beatty, of Beatty Bros., Fergus, Ont.

Father Fitzpatrick and Wm. Toole, Calgary, also spoke.

Trip to Lethbridge

Following the banquet, the city of Medicine Hat "blew off" a gas well. Delegates who had not witnessed an event of this character were greatly impressed with the awful forces of nature.

Tuesday morning the visitors, with a number of Medicine Hat citizens, departed by special train for Lethbridge, where they were entertained at luncheon by the Board of Trade of that city. Those who had not visited Lethbridge for a few years were deeply impressed with the manner in which the city had been beautified since their last visit, the Galt Park, comprising 10 acres, adjoining the station, around which the business section is built, being specially remarked upon.

The chief industries of the city are, the plants of the Columbia Macaroni Co., the Taylor Milling Co., The Lethbridge Brewing Co., and the many coal mines, whose payroll under normal conditions is $160,000 per month.

Following the luncheon, the party was motored through the country surrounding the city, particularly to view the irrigation farms. It was claimed the productiveness of these lands was increased three-fold by irrigation, three crops of alfalfa



attended the Alberta Industrial Congress last month —*Photo by W. J. Oliver, Calgary.*

being harvested each year, also that their value was increased from $25 to $160 per acre.

The special train arrived at Calgary at 9 p.m., and Wednesday morning about 600 delegates assembled at the Grand Theatre for the business sessions of the Congress.

Congress Opened at Calgary

Promptly at 10 a.m. Mayor Brown, of Medicine Hat, and President of the Alberta Industrial Development Association, opened the business sessions of the Congress. With him on the platform were: Lt.-Gov. His Honor R. G. Brett; Premier Hon. Chas. Stewart; Acting-Mayor McCoubrey, Calgary; Wm. Toole, President, Calgary Board of Trade; J. E. Walsh, General Manager, Canadian Manufacturers' Association, Toronto; D. C. Coleman, Vice-President, Canadian Pacific Railway, Winnipeg; R. Warren, Asst. Gen. Manager, Canadian National Railways, Winnipeg; Col. J. S. Dennis, Chief Commissioner, C.P.R. Dept. of Colonization and Development, Calgary; and several others.

After the invocation and reading of messages of regret, M. A. Brown, Mayor of Medicine Hat and President of the Alberta Industrial Development Association, explained the purposes for which the congress had been called. The subject uppermost in everyone's mind at the present time, he said, was how the country is to pay its great obligations contracted during the war. This could only be done by intensive development, and it was plain to be seen that development was not intensive in this country. Everybody knew, he said, that the greater portion of the resources of this country were still undeveloped. There had been an increase in development during the last 15 years, he said, but the increases had not been big enough.

Some, he said, held the opinion that the country is not ready for an intensive development at the present time, but he did not agree with this view. "The time has arrived," he said, "when we should be more than producers of raw materials. We should produce the finished article for the world's markets. To convince the world of these facts we called this industrial congress. I think that the delegates will be satisfied of this when they have seen the country and heard the speakers at the meetings here. The interest of the United States in this congress speaks much for the friendship between the two countries."

Addresses of welcome were also delivered by Lieut.-Governor Brett, Premier Stewart, Acting Mayor McCoubrey, and Wm. Toole, President of the Calgary Board of Trade. The congress then got down to business, and throughout the sessions of Wednesday and Thursday listened to informative addresses, by men of prominence in the fields of science and industry, on the resources of Western Canada, and the policies which should be adopted for their development. A motor trip through the city and visits to the theatres and golf and country clubs were interspersed in the proceedings, while on Thursday evening the Board of Trade banqueted the delegates at the Hotel Palliser.

Visit to Edmonton

During Thursday night a special train conveyed the members of the congress to Edmonton. At noon on Friday a luncheon was tendered by the local board of trade, after which a final session of the congress was held. Then in the evening the Provincial Government entertained the visitors at dinner, while the day's proceedings terminated with a reception at Government House. Entertainment features filled in the hours of Saturday, the final day of the convention.

In the following pages a few of the addresses delivered before the Congress are published, while it is hoped in subsequent issues to present readers of INDUSTRIAL CANADA with others of the more important addresses at the gathering. Altogether a great deal of material was collected bearing on the resources of the Province of Alberta which is well worth preservation.

The Natural Resources of Western Canada*

Western Provinces Have Been Blessed with Immense Resources in Agricultural Land, Coal, Gas, Oil, Clay, Timber and Precious Minerals, and Sooner or Later these will all be Developed along Proper Lines

By COL. J. S. DENNIS, C.M.G.

Chief Commissioner, Department of Colonization and Development, C.P.R.

I PROPOSE to deal with our natural resources under separate headings and in the order of their importance as I view the subject, beginning with that natural resource which is the foundation of development and progress in all countries, viz., Agricultural Land.

The measure of sound prosperity in any country is the possibility of producing, through agriculture, the food needed by its inhabitants. It is recognized that many countries which have not been favored with large agricultural areas have reached a measure of prosperity through industrial development of their other natural resources, but the necessity for local production of sufficient food for home consumption through the utilization of available agricultural land has been specially emphasized in many countries during the late world war.

In the matter of land available and suitable for successful agriculture with all its allied interests of horticulture and animal industry, nature has been very bountiful to the four western provinces of Canada. The Provinces of Manitoba, Saskatchewan, Alberta and British Columbia comprise an area of about 711,000,000 acres. Of this vast area it is estimated that at least 225,000,000 acres are available for immediate settlement and cultivation. At the present time not more than 30,000,000 acres of this area are occupied and cultivated, leaving the enormous area of 195,000,000 acres of good land available for further extension of our agricultural activities. The total population of these four western provinces does not exceed 2,200,000, and when it is realized that this small population occupies this vast area in such a manner as to provide an average of only 1.88 people per square mile one can get some conception of the possible density of population and the enormous value of agricultural products which will be produced so soon as the remaining 195,000,000 acres are occupied and made productive. For comparison, it may be noted that were the Western Provinces occupied on the same basis of distribution of population per square mile as the small Province of Prince Edward Island in the eastern portion of the Dominion, the four western provinces of Canada would to-day have a population of 20,000,000.

Difficulty of Securing Settlers

Our greatest problem in Western Canada to-day in connection with the development of our natural resources is that of securing settlers of the right kind to take up and cultivate the vast unoccupied acreage, which only awaits the intelligent effort of the agriculturist to produce vast quantities of food.

The suitability of the vast unoccupied areas of the four western provinces of Canada for successful agriculture, horticulture and animal industry has now been definitely proved by the prizes won in competition with all the other countries of the world, for our grain, fruit and livestock, and the grain production in the occupied areas of our prairie provinces, even under the existing conditions of sparse settlement, is already playing, as is indicated by the figures I will quote, an important part in supplying the food of the world.

It is within my recollection, and also that of other "old timers" present, that the vast areas in these western provinces now occupied by thousands of prosperous farmers were looked upon and characterized as a part of the "Great American Desert" unsuited for occupation or the growth of grain, and destined to be the home of wandering bands of hardy cattle as successors to the buffalo. This erroneous idea was only dispelled by the efforts of those hardy pioneers at widely scattered points, who undertook to cultivate the soil, and it has now been entirely removed by the actual results obtained in the production of grain, vegetables, fruit and livestock all over these provinces.

The value of the agricultural, dairy and animal industry products of these four western provinces for the year 1917, the last year for which complete statistics are available, amounted to the sum of $1,222,831,000, made up as follows:

Manitoba		
	Grains and fodder	$137,470,750
	Dairy produce	8,054,567
	Live stock	88,350,000
	Total	$233,875,317
Saskatchewan		
	Grains and fodder	$349,488,200
	Dairy produce	4,098,187
	Live stock	218,125,000
	Total	$571,711,387
Alberta		
	Grains and fodder	$176,965,800
	Dairy produce	10,218,876
	Live stock	216,148,000
	Total	$403,332,576
British Columbia		
	Grains and fodder	$ 12,171,100
	Dairy produce	1,355,837
	Live stock	375,357
	Total	$ 13,912,294

It is true that on our vast agricultural areas nature exacts intelligent effort in utilizing the facilities she has provided, and at times like the present year, withholds in certain districts the moisture necessary for successful agriculture.

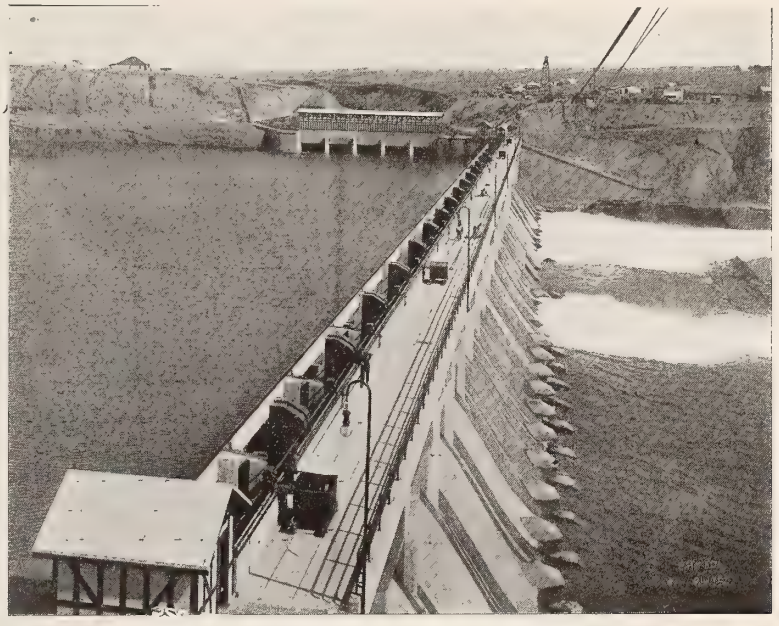
The introduction of irrigation in the southern portion of the Province of Alberta and the western portion of the Province of Saskatchewan, and the proper utilization of the water supply provided by our rivers, has provided that vast areas of land in those districts which at times are lacking sufficient rainfall for successful agriculture, can be made, and are being proved, the most productive and intensively cultivated areas in the West. In this great work the Canadian Pacific Railway Company have already expended over $15,000,000 in providing canals and ditches for the proper distribution of water, but

*Address before the Alberta Industrial Congress, Calgary, August 13, 1919.

the extension of this most ancient of all systems of permanent agriculture to the vast areas which can be reclaimed is a work of national importance and one which in the near future must engage the attention of both our Dominion and Provincial Governments.

Outside of the utilization of our agricultural areas for the production of grain, fruit and livestock as food products, Western Canada offers exceptional opportunities for wide extension of our milling, packing, canning and tanning plants, and of industries for the utilization of our vast quantities of cereal straws for the manufacture of paper, it having already been demonstrated that the straw of the flax grown in these Western Provinces produces a very high grade of paper.

Situated as the four western provinces are in the northern part of the Northern American Continent and subjected to cold winter weather on account of their geographical position, the question of fuel for domestic use is, of course, a matter of first importance. In this connection nature has again been very bountiful, and aside altogether from the enormous supply of timber fuel contained in the Province of British Columbia, which is referred to later on, I may direct your attention first to the recognized standard fuel of the world.



The Great Irrigation Dam at Bassano

Speaking in round figures, the best available estimate indicates that the known coal reserves of the world amount to seven million million of tons. Of this enormous quantity the four Western provinces of Canada contain one million three hundred thousand million of tons. The coals of the Western provinces cover all the different qualities from the lignites up through the semi-bituminous, bituminous cooking, to anthracite, and the vastness of the coal resources, as noted by the above figures, indicates that nature has blessed these Western provinces with one of the vast coal supplies of the world, and has solved the fuel supply, both for domestic and industrial use, for many centuries to come.

The coal production in the Provinces of Alberta, Saskatchewan and British Columbia for the year 1917 was 7,352,945 tons. This production will, without doubt, increase rapidly with the extension of settlement and the introduction of additional industries using coal for the generation of power, but the facts quoted will be sufficient to indicate to you that in the matter of coal for fuel this western portion of Canada occupies a most advantageous position.

In this connection attention must also be drawn to the fact that so far we are only utilizing our coal deposits under the wasteful method of its use for fuel only, with the exception, in a few cases, of its conversion into coke. Ultimately no doubt more modern scientific methods will be adopted to utilize our coal deposits on the basis of saving the by-products, and in this way enormously increase the value of this natural resource.

Not satisfied with endowing us so generously with almost inexhaustible quantities of coal, nature has added to her gift, particularly in the Province of Alberta, by furnishing us with vast quantities of natural gas.

During your visits to Medicine Hat and Lethbridge, and also in this city, you have had some opportunity of seeing something of the natural gas development, but it may interest you to know that natural gas has been developed in the Province of Alberta within an area extending from the national boundary north for about 700 miles and from the Rocky Mountains east for 200 miles.

This natural product is now being utilized both for industrial and domestic purposes, and the possibility of its extension as a fuel in generating heat, light and power is almost beyond measure.

You no doubt will also be interested to know in connection with our natural gas supply that investigations lately carried on have proved the possibility of extracting from this gas, at a low cost, the character of gas required for use in the balloons which will probably play an important part in the matter of transportation in the world in the near future.

Associated with our vast coal deposits and the vast natural gas area referred to, it is probable that nature has also blessed this western country with a vast deposit of oil.

We are not justified at present in claiming that we have located and developed a vast oil field in these Western provinces, but the exploratory work so far carried on over an area extending some 700 miles north to south in the Province of Alberta and at one or two isolated points in the adjacent Province of British Columbia, and the oil obtained in small quantities at these widely separated points justify the assumption that somewhere within the Province of Alberta there exists one of the vast deposits of petroleum of the globe, and after having given some special attention to this matter as head of the Canadian Pacific Railway Company's Department of Development, I personally venture the opinion that sooner or later, and in all probability in the near future, a large producing oil field will be located through the medium of some of the many test wells that are now being drilled at widely separated points and when that time comes we will not only have this great addition to our fuel supply but the benefit of the vast number of by-products resulting from the scientific use of crude petroleum.

Timber has always played an important part in assisting in the development of new countries. This is particularly true of the prairie portions of Western America, where the first need of every settler is lumber. In this particular nature has again been exceptionally kind to the four Western Provinces of Canada, for while the prairie Provinces of Manitoba, Saskatchewan and Alberta produce a certain amount of lumber, the lumber needs of the prairie districts of these provinces could not be filled were it not for the vast timbered areas of the Province of British Columbia. This province differs from its three sister provinces to the east in that it is more or less mountainous throughout and only in the valleys

is there opportunity offered for agriculture, horticulture and animal industry, but the province possesses one of the great undeveloped timber areas of the world. Conservative estimates indicate that the commercial standing timber in the Province of British Columbia amounts to 366 billion feet. This timber comprises cedar, Douglas fir, spruce, hemlock, white fir, lodgepole pine, western yellow pine, yellow cypress, western larch, western white pine and cottonwood.

This vast timbered area has already been developed to a certain extent through the medium of sawmills and allied woodworking industries, but the extension of this portion of our industrial activity will offer opportunities for a further investment of capital coincident with our extension of agricultural settlement east of the mountains and of our overseas export lumber business. There would also seem to be an opening for the extension of our wood pulp paper making industry in view of the vast quantities of suitable pulpwood to be found in all these four Western Provinces, and in this connection it is noted that we must endeavor to correct the situation which occurred last year in which Canada exported pulpwood to the value of $15,000,000, whereas this pulpwood manufactured into paper at home at the then existing prices would have realized the sum of $79,000,000.

Clay and Clay Shales

The members of the Congress who visited Medicine Hat had an opportunity of seeing one of the large industrial plants engaged in utilizing our clay deposits. Throughout all the four Western Provinces vast deposits of clay of differing values have been located, and the utilization of these clays through our existing industries justifies us in the claim that we possess in these deposits clay suitable for all purposes from the manufacture of common brick to that of high grade pottery, and this branch of our industrial activity offers opportunities for wide extension.

We have also been able to demonstrate the suitability of certain of our sand deposits in the West for the manufacture of glass, and where these deposits are located in close proximity to our natural gas supply this industry offers an opening for wide development.

The many large lakes situated in the provinces of Manitoba, Saskatchewan and Alberta already provide large quantities of freshwater fish, but our great fishery resource of Western Canada is on the coast line of British Columbia. This coast line covers in extent some 7,000 miles and may reasonably be claimed to provide one of the great fishing industries of the world. This industry has already been developed to considerable limits as will be indicated by the fact that the catch of eight kinds of fish during the year 1918 amounted to 233,000,000 pounds, valued at $22,000,000. The export of a large quantity of this coast fishing industry, together with fresh-water fish from the interior lakes, comprises one of our important industries of the West, but like many other phases of the development of our natural resources is only in its infancy.

Iron Ore an Uncertain Quantity

With unlimited quantities of coal and natural gas as fuel, and the probable addition of crude petroleum to this list, it was only necessary for nature to have blessed Western Canada with a large deposit of iron ore to insure her future as one of the richest countries of the world. In this particular, however, nature seems to have been somewhat sparing in her gifts. We have indications of deposits of iron ore in the Lake Winnipeg district of Manitoba, some smaller deposits in the Provinces of Saskatchewan and Alberta, and probably more important deposits at several points in British Columbia, but as yet, sufficient development has not been completed at any of these points to justify the prophecy as to how far these deposits can be utilized in connection with our fuel to supply the steel which is rapidly becoming one of the most widely used products in the world's development.

Transportation Well Developed

In developing the natural resources of any country, the transportation available not only for the movement of the raw material but of the finished product is a most important factor. The outline given above will, I hope, have served to convey to you the wonderful development which may be looked for in Western Canada through the ultimate utilization of our natural resources, and fortunately the foundation for the rapid development of these resources, through the medium of transportation, has already been laid. In the four Western Provinces we have to-day in operation a railway mileage of 19,873 miles, which provides one mile of railway in operation for each 110 of population. This fact will indicate to you that Western Canada has as great if not greater mileage of railway per capita than any other country in the world. It is, of course, true that the vastness of the country makes it inevitable that even as yet large districts are not served by existing railway lines, but the foundation work for the extension of the system as conditions warrant has already been laid, and from the standpoint of available transportation, Western Canada, with the opportunities offered for agricultural and industrial development through ready transportation of raw material and finished product, occupies a very unique position.

Precious Minerals Known to Exist

The vast mountainous areas of the Province of British Columbia are without doubt one of the most highly mineralized districts of the world. The production of gold, silver, lead, copper, zinc, and some of the smaller miscellaneous minerals, showed the large value of $28,500,000 in 1918. Like the development of all the rest of our natural resources of the West, that of our precious minerals, especially in the Province of British Columbia, is only in its infancy; vast areas of that highly mineralized country having as yet only been roughly explored and prospected.

As was intimated in my opening remarks, I have only endeavored to put before you in an outline manner the natural resources with which Western Canada has been blessed and the steps so far taken to develop them. With the increase of our population, the demand for the finished product of many of these raw materials will increase and the increased demand will, doubtless, result in the extension of our industrial life. This extension, however, will only be possible through the medium of the investment of large sums of capital and the value of meetings of this kind, through which reliable facts may be made public regarding our resources and interest awakened in their proper development, cannot be overestimated.

In common with all new countries, which have undergone more or less rapid development, we have experienced in Western Canada the inevitable land, coal, oil, timber and other booms with concurrent disappointment, in many cases, relative to returns from capital invested with the inevitable retardation of sane development. We, however, know that we have the raw products of agricultural land, coal, gas, oil, clay, timber, precious minerals, etc., and indulge in the prophecy that sooner or later these will all be developed along proper lines and result in making these four Western Provinces of Canada one of the most extensively settled, highly developed and prosperous portions of the British Empire.



An Up-to-Date Coal Mining Plant near Lethbridge

Water Powers and Coal Resources in Alberta*

Province Does Not Possess Large Year-Round Water Powers in Vicinity of Well-Settled Sections, but by Supplementing Them with Steam Powers, Developed from Coal Resources, Should Have Plenty of Power for All Needs

By JAMES WHITE, C.M.G.
Vice-Chairman, Commission of Conservation

POWER has been defined as the "substitution of mechanical energy for human energy, of mechanical work for human labor." As a result of the utilization of power, civilized nations expend enormously more energy than the combined muscular power of their inhabitants and their beasts of burden. Sir Dugald Clark has estimated that the factories of the world, including electric lighting and street railways, use 75,000,000 horse-power; the railways of the world, 21,000,000, and the shipping of the world, 24,000,000, or a total of 120,000,000 horse-power. Fairgrieve, in his "Geography and World Power," says that "the power of Greece, whereby she achieved such great things in all directions of human progress, was largely based upon the work done by the servile class. On the average, each Greek freeman, each Greek family, had five helots, whom we think of not at all when we speak of the Greeks, and yet these were the men who supplied a great part of the Greek energy."

Equivalents in Slave Power

Of the 75,000,000 horse-power used in factories and general industrial and municipal activities, about 13,000,000 is used in the United Kingdom, about 29,000,000 is used in the United States, and 6,000,000 in the British Dominions and dependencies.

The work accomplished annually in the industries alone of the United States is, therefore, equivalent to the labor of 580,000,000 slaves, and each family in the United Kingdom has, in the industries, nearly 30 serfs to "supply energy, requiring no food and feeling nothing of the wear and tear and hopelessness of a servile life."

Having demonstrated the enormous importance of power, the next step is the examination of this particular problem under consideration, namely, power in the Province of Alberta. Water-power, with its numerous advantages, is naturally first in order of consideration. This has been exaggerated, partly due to the impression gained, say, by the traveller who, from the railway train in summer, sees large volumes of water flowing down the beautiful rivers of Alberta. The traveller is not aware, or forgets, that the low water season in the western rivers is not in the driest summer weather, when the glaciers and snow-fields are swelling their volume, but in the coldest winter, when frost seals the ice and snow-fields, and the volume is practically dependent upon the springs that feed the streams.

Height of Falls Available

Another important consideration is the height of the falls that are available. This is a geological question. The Rocky Mountains are, in large part, composed of limestone, with sandstones and shales in some valleys in the eastern portion. The tendency of a river in such rocks is to reduce its bed to a nearly uniform gradient, hence the few falls of considerable height. On the other hand, high dams to create high heads are, in most instances, prohibited by the heavy cost, and, in the case of several important streams, the presence of railways debars such constructions.

So far as water-powers are concerned, Calgary is more favorably situated than any other city in Alberta, the six powers on the Bow River having an aggregate minimum of 60,000 horse-power, with regulated river, and less than one-half that amount with unregulated river. These powers are from 30 to 50 miles in an airline from Calgary.

The Rocky Rapid power on the North Saskatchewan, is 60 miles from Edmonton. To develop this power would require a dam 85 feet high.

The Baptiste power, 12,000 horse-power, on the Athabasca,

* Address delivered before Alberta Industrial Congress, August 13, 1919.

near the mouth of the Baptiste, is 170 miles from Edmonton. Another power, nine miles above the Baptiste power, would yield 6,000 horse-power. The total available at these sites, 18,000 horse-power.

It is estimated that the Grand Rapids of the Athabasca would yield 22,000 horse-power, the Long Rapids power, 12,000 horse-power, Boiler Rapids 11,000 horse-power, Middle Rapid, 9,000 horse-power, Crooked Rapid, 6,000 horse-power; Rock Rapid, 5,000 horse-power; rapid five miles above Mountain Rapid, 7,000 horse-power, and the total power on the Athabasca, between the Pelican Rapids and McMurray, is estimated at 97,000 horse-power. As these powers are from 200 to 250 miles from Edmonton, they cannot be regarded as possibilities at the present time.

Powers Are Far Away

Peace Canyon power, 94,000 horse-power, is 400 miles from Edmonton, and to develop all the power at one site would require a flume or penstock nine miles long; the Vermilion power, 20,000 horse-power, is 350 miles distant; the Upper Fort Smith Rapids, on the Slave, 184,000 horse-power, and the Lower Fort Smith Rapids, 128,000 horse-power, are respectively 460 and 670 miles from Edmonton.

It should be noted here that the figures for the powers on the Athabasca, Peace and Slave rivers, given in the report on "Water Powers of Manitoba, Saskatchewan and Alberta," are for the open season only, namely, from May to November. Accurate data respecting the minimum flow of these rivers are not obtainable, but available information indicates that the minimum in winter is about one-third of the open season minimum, and the figures quoted above are based upon that assumption.

The foregoing brief review of the larger water-powers of Alberta does not indicate great resources in the vicinity of the well-settled portions of the province, assuming that the demand for power is uniform throughout the twelve months of the year. It is necessary, therefore, to consider measures to supplement or to replace power from water.

With Alberta's enormous coal resources, however, the deficient power during the low water months could readily be supplied by auxiliary steam plants. Such plants could also take care of the peaks of the loads.

If such auxiliary stations are only required for a few months in the year, it may be advisable to construct them at low first cost, even at a sacrifice in economy. If operated to cut down the peak load, however, or to prevent interruptions of service, economy of operation is more important.

Steam Power vs. Water Power

In the foregoing review, attention has been devoted solely to water power and its utilization.

There is a fairly general popular belief that water power is inherently cheaper than steam power. As a matter of fact, their relative costs are dependent upon a number of considerations, and, in many instances, steam power is cheaper than water power, particularly since 1914, owing to the altered conditions created by the war.

As compared with steam power, water power has the following advantages:

(1) Cost of operation is usually much lower.

(2) Very few attendants are required in the plant. No fuel except for heating the building.

The disadvantages are:

(1) Usually the cost of development and installation is much higher than with steam power.

(2) The situation of the water power plant is fixed by nature, and, as a rule, a transmission line is required to transmit the electric energy to the user.

(3) The service is less reliable owing to the possibility (*a*) injury to the transmission line, and (*b*) lack of power due to unusually low water.

During recent years, largely owing to the introduction of the steam turbine, the capital costs of modern high-powered steam plants and of many hydro-electric developments are coming close together, and many engineers predict that, at an early date, steam-electric power will be produced at less expense, other things being equal, than hydro-electric energy. Formerly steam plants consumed 30 to 35 lbs. coal per horse-power hour; now modern plants use nine to nine and a half lbs. In 1915, a modern steam turbine of large size, using units of 10,000 to 20,000 kilowatts (13,300 to 26,600 horse-power) rating could be constructed for from $50 to $60 per kilowatt of maximum capacity as compared with hydro-electric costing from $200 to $250 per kilowatt.

Alberta contains 87 per cent. of the coal in Canada, but the estimate in the "Coal Resources of the world," states that 82 per cent. of the coal in that province is lignite or sub-bituminous. Practically the whole of the settled portion of the province is underlain by this valuable fuel, and the relative costs of steam-electric and hydro-electric power, indicate the desirability of investigating the economics of steam-electric power generated at central stations and transmitted to the municipalities within say 100 to 120 miles.

The larger coal mining centres could be selected because such large central plants give unusual opportunities for economies. For instance, they can use coal that under ordinary circumstances, would be left in the mine, as it would be unprofitable to bring it to the surface. As an example of such economy, the Alliance Coal Company states that "by burning lignite slack they have succeeded in reducing the coal bill in the Edmonton, Alta., power house from $165,000 a year to $75,000;" also that if an automatic stoker were devised which would "respond and evaporate the necessary water in the boilers to handle the overload at peak," much better results could be obtained.

Electrification of Railways

While extension of the electrification of steam railways in the near future is probable, there are several factors in the problem which render it extremely unlikely that a very considerable mileage will be electrified.

The advantages of haulage by electric locomotive, as compared with the steam locomotive, are numerous. The cost of maintenance of an electric locomotive is much less, it does not require to be sent into the round house for cleaning, etc., at the end of a run, two or more can be operated together without loss of power, at the top of a long grade, the electric retains its full power and on long descending grades, regenerative braking returns the energy of the train into the trolley line or third rail, and in severe winter weather the train load need not be reduced.

On the other hand, electrification would necessitate raising large amounts of capital; railways are not finding that an easy operation, and interest charges are much higher than in pre-war days. Electrification of all lines would require the construction of hydro-electric and steam-electric plants. The railway load is a fluctuating one, varying from hour to hour and from day to day, and the numerous plants which had no market other than the railway load would have a low load factor, which, as already pointed out, means expensive power. Again, failure of portions of the electric installation, such as break in the transmission line, may tie up considerable mileage.

Mr. W. F. Tye has stated that no road in Canada, except possibly the Canadian Pacific, is in a position financially to contemplate large capital expenditures, and that he understands the "Canadian Pacific has not as yet, found a place where the traffic is sufficiently dense to justify the cost of installation of electric traction."

Making Most of Canada's Natural Resources*

Imperative Need of the Day is a National Economic Policy Based on the Scientific Development and Utilization of Our Natural Resources—We are Importing Far Too Much of the Raw Materials of Industry

By R. D. MacLAURIN, B.A., Ph.D.
Professor of Chemistry, University of Saskatchewan

"DURING the past five years Canada's national debt has rapidly increased until it has reached the sum of $1,950,000,000, incurring interest charges to the amount of $115,000,000. Our adverse balance of trade with the United States in 1918 mounted to $292,000,000 and our exchange rate is five and one-eighth per cent.

"The recommendation by the finance minister of Canada to meet that situation was 'increased production and thrift.'

"The war made it necessary for Canada to mortgage her resources, human and material, for the purpose of carrying on. The obligations were loyally and willingly assumed, but we are now confronted with the question—How is the liability to be financed? Will 'increased production and thrift' accomplish this?

"The imperative need in Canada to-day is a national economic policy based on the scientific development and utilization of our national resources. An outstanding feature of that policy should provide for participation by the state in the results of that development, small in the initial stages, but in an increasing ratio as development and revenue therefrom advances. Canadian credit in general would benefit from such a provision for participation, and should the proceeds remain the property of the Dominion, a sinking fund for the discharge of federal indebtedness would be created.

"The necessity for such a policy is evidenced by the fact that we import 98 per cent. of our petroleum products at an annual cost of 30 millions of dollars; 95 per cent. of our iron ore and iron products, at a cost of 177 millions of dollars, and over 50 per cent. of our coal, at a cost of 71 millions of dollars, making a total of 278 millions of dollars annually drained from Canada for those three minerals. That amount constitutes the major part of our adverse balance of trade. Canada is richly endowed in coal, oil and iron. To retain those millions of dollars in Canada, to extinguish the adverse balance of trade, to make Canada industrially independent, no time should be lost in inaugurating a policy for the development of our raw materials.

"For the successful carrying out of a policy formulated for the development of our natural resources the co-operation of men of scientific attainments is essential. In 1916, in urging the development of our resources, I suggested that provision be made in the case of a research subsidized by the government and leading to a discovery, invention, or the improvement of a technical process, protecting the author in the ownership thereof. As government aid had, at least, materially contributed to such discovery, invention or improvement of a technical process, provision should also be made for a royalty to the Government on its use for the purpose of maintaining a national research fund.

"The creation by the Alberta Government of a ministry of industry, and the calling of this Industrial Congress by the Industrial Development Association of Alberta, whose guests we are, is an outstanding recognition of the value of Alberta's natural resources, and a realization of the urgency for their immediate development.

"The Dominion of Canada ranks second among the nations of the world as regards its potential coal resources, which have been estimated at 1,234,269 million tons, of which 1,059,927 million tons, or 86 per cent. of the total, is possessed by the province of Alberta. Furthermore, the total coal in Great Britain and Ireland, Australia, India, South Africa, New Zealand, Rhodesia, Newfoundland, South Nigeria, British N. Borneo has been estimated at 494,961 million tons;



Members of the Medicine Hat Section, C.M.A.

Front row, left to right: W. E. Bray, Manager, Hedley Shaw Milling Co., Limited; W. A. Church, Manager, The Alberta Linseed Oil Co., Ltd., Secretary Local Branch, C.M.A.; Chas. Pratt, Manager, Medalta Stoneware, Ltd. (Chairman); R. P. Stewart, Manager, Alberta Clay Products, Ltd.; George Preston, Manager, The Lake of the Woods Milling Co., Ltd. Back row, left to right: G. W. Elliott, Manager, Medicine Hat Pump & Brass Works, Ltd.; C. L. White, Martin and Phillips; J. H. Preston, The J. H. Preston Planing Mills; V. W. Parrish, The Alberta Foundry and Machine Co, Ltd.; J. H. Tabor, J. H. Tabor Candy Co., Ltd.; Geo. E. McDonald, Medicine Hat Pump and Brass Works; A. F. Andrews, Manager, Ogilvie Flour Mills, Ltd.

* Address delivered before Alberta Industrial Congress at Calgary, August 14, 1919.

consequently, according to the above figures, Alberta contains more than twice as much coal as Great Britain and her other possessions within the Empire.

"In order to more fully appreciate the national significance of coal, it may be advisable to refer briefly to the part which it has played in the constructive economic policies of certain countries.

Cheap Coal Cause of Supremacy

"Great Britain gained her position in the world's commerce very largely by reason of her plentiful supply of cheap coal, which enabled her not only to pay for a considerable portion of imports, but exercised a very potent influence on inward freights of food and raw materials by providing a useful and paying return cargo. The influence of cheap coal, cheap food and raw materials on the cost of manufacturing is so obvious that it need not be emphasized. To day Great Britain faces a national crisis in her coal trade, as is evidenced by a decrease in production of over 20 per cent. during the past five years, and a decrease in exports during the same period of 56.7 per cent. Furthermore, the cost of production has increased to such an extent that successful competition with the United States in the South American and European markets is endangered.

"In order to visualize the national significance of coal in industrial Germany, it is essential to keep in mind the meaning of the distillation of coal, which process was the cornerstone of her economic structure for peace and war. Crude coal tar was the raw material from which dyes, pharmaceutical and photographic preparations were obtained, and Germany gained control of the greater part of the world's trade in those chemicals. Furthermore, the same compounds used in making dyes, etc., were those from which explosives and poisonous gases were made, consequently Germany has the chemical plants, equipment and personnel for manufacturing unlimited quantities of the above materials. The coke and gas from the distillation of coal was used in the iron, steel and other metallurgical industries. The ammonia was used for fertilizers, the manufacture of nitrates and other chemicals; consequently it is apparent that Germany prepared for peace and war by building up essential chemical industries, the products of which controlled the world's market in war materials, thus establishing a profitable foreign trade and at the same time preventing other countries from building up those fundamental industries and being prepared for war.

"During the war, the coal distillation process was necessarily extensively developed in England, and also in the United States, so that now those countries are largely independent of German supplies in dyes and other chemicals, but the cost of production is still considerably higher than that of Germany.

"The government of the United States recognizes as never before the national significance of coal, and is co-operating in the development of the coal industry. The United States has adopted the former British economic policy of exporting coal, as is evidenced by an increase of 243 per cent. in her coal export to Europe, and 350 per cent. to South America, and the German economic policy of building up national industries, utilizing the products of coal distillation. These industries have been established during the past few years at an expenditure of hundreds of millions of dollars, the products of which will be protected by license system. As the United States possesses 51 per cent. of the world's total supply of coal, and produced last year 685,000,000 tons, while all the other countries in the world outside Great Britain produced only 500,000,000 tons, it is obvious that the United States will occupy a strategic position in the world's trade.

"As already pointed out, Canada ranks second in coal resources, of which Alberta possesses 86 per cent., and as the vital national significance of coal has been incontrovertibly established, it is apparent that Alberta is destined to become one of the chief industrial provinces in Canada.

"Alberta coal has not received its due recognition, its capability, for instance, to successfully compete with Pennsylvania anthracite for the Manitoba market, owing to, firstly, the high cost of production, due to avoidable overhead charges; secondly, existing belief that Alberta coal is unsuitable as a domestic fuel (with consequent large importations of Pennsylvania anthracite); thirdly, present inefficient methods of combustion, due to furnaces now in use being designed for anthracite coal.

Agriculture and Industry

"A phase of this subject which might be touched on is the close relation between agriculture and industrial development. While agriculture, our basic natural industry, has been fostered, the fact remains that our average crop yields are still far below those of many countries. The history of agricultural science in various European countries shows that the full measure of success can only be attained by intelligent mixed farming supplemented by artificial fertilization.

"The soil possesses only a limited quantity of plant nutrients, and since a portion of that source of supply is removed by each crop, the time will inevitably come when the quantity of essential constituents will be insufficient to produce paying crops.

"To bring before us clearly the importance of conserving our soil's strength, its wealth in plant food, by home milling,



Plant at Medicine Hat Manufacturing Various Clay Products



One of the Big Flour Mills at Medicine Hat

I have made the following calculation of the fertilizing constituents contained in one hundred million bushels of wheat and forever lost to us should the 100,000,000 bushels be shipped out of the province. As, however, in the milling of wheat, 70 per cent. approximately, is converted into flour, the by-products being represented by the remaining 30 per cent., it would follow that home milling would retrieve the latter percentage for stock-feeding purposes, and a consequent ultimate return to the soil.

"The approximate quantity of potassium, nitrogen and phosphorus removed from the soil by 100,000,000 bushels of wheat is:

Nitrogen, 142,000,000 lbs, valued at 36 3-7c. lb.....	$51,720,000
Phosphorus, 24,000,000 lbs., valued at $21.46 cwt...	5,150,000
Potassium, 26,000,000 lbs., valued at 31.62c. lb.	8,220,000
	$65,090,000

"That exportation of flour rather than wheat is a sound economic policy has been recognized by the United States Congress. The Wheat Guarantee Law of March 4, 1919, in Clause 5, contains the following provision:

"'That as between the two parties mentioned (wheat and flour) preference shall be given to the exportation of flour, except when the public interest would, in the judgment of the president, be injuriously affected thereby.'

Straw Burning Loss

"A brief allusion to the loss from burning of straw may be of interest. When the straw is burned the fertilizing constituents are practically all wasted. The approximate quantity and value of nitrogen, phosphorus, potassium in straw resulting from 100,000,000 bushel yield of wheat, calculated on the basis of 15 bushels to the acre and one ton of straw per acre, is as follows:

66,666,660 lbs. nitrogen, at 36 3-7c. per lb.	$24,285,711
10,666,665 lbs. phosphorus, $21.46 per cwt.	2,289,042
119,999,998 lbs. potassium, 31.6c per lb.	36,919,915
	$63,494,668

"Some years ago Mr. George Harrison, of Moose Jaw, conceived the idea of utilizing straw to provide the farmer with gas for lighting, cooking and power purposes. The necessary equipment consists of a retort, gas scrubber and gasometer. When the straw is heated in a retort, gas, tar and ammonia are given off, and a valuable carbon residue remains. From a ton of straw there is obtained between 11,000 and 12,000 cubic feet of gas. Straw or gas may be used for heating the retort in which the straw is carbonized, and from each ton of straw there is a surplus of about 7,000 cubic feet of gas.

Straw Not Utilized

"The quantity of straw non-utilized in western Canada is approximately 20,000,000 tons.

"The heating value of straw gas is approximately 400 B. T. U.'s per cubic foot. The gas from 20,000,000 tons of straw, at 7,000 cubic feet per ton, in terms of power, would be equal to 2,511,000 H. P. years, or seven times the power generated at Niagara Falls on the Canadian side. As a matter of fact, then, every farmer has a small Niagara of his own. The thermal value of a gallon of gasoline is 119,000 B. T. U.'s, so in terms of gasoline the gas from the straw wasted annually in western Canada would be 470,000,000 gallons, which is more than one-sixth of the total production of gasoline in the U. S. A., and the U. S. A. produces two-thirds of the world's total supply of oil.

"The combustible constituents of the gas are methane, hydrogen and carbon monoxide. The gas burns with a blue flame and may be used in the same way and for similar purposes as coal gas.

"After the gas and other by-products are driven off from the straw there remains in the retort a carbon residue which amounts to 650 pounds from each ton of straw. The residue has a fuel value of 10,000 B. T. U.'s per pound.

"The potash content of the carbon residue varies from 3-6 per cent., so the minimum amount of (K_2O) potash in the carbon residue from 20,000,000 tons of straw would be 180,000 tons.

"Also the carbon residue contains from 1-1.5 per cent of ammonia and .34 per cent phosphoric acid. The carbon residue can be easily washed and thereby remove the soluble matter. After this treatment the carbon may be used as lampblack. It has been valued at $50 per ton by a well-known authority on pigments in New York, so if a market could be secured for six million tons of carbon resulting from 20,000,000 tons of straw it would be worth $300,000,000.

"In conclusion let me say that sufficient work for carbonizing straw has been done to demonstrate its commercial possibilities. The United States department of Agriculture

and bureau of chemistry co-operated with me in New York city, September 1918, in exhibiting at the National Exposition of Chemical Industries an equipment based on Mr. George Harrison's invention, and the United States Bureau of Chemistry have installed a straw gas plant at Arlington farm in the neighborhood of Washington, with the object of continuing experiments on straw and also cornstalks, of which latter approximately two hundred million tons are wasted annually in the United States."

Factories Hold Population

West Will Lose Surplus Population Unless it Establishes Industries

Speaking before the Alberta Industrial Congress at its inaugural session in Calgary, R. T. Riley, of Winnipeg, vice-president of the Union Bank of Canada; managing director of the Northern Trust Co., and director of the Canadian National Railways, had some pertinent comments to make on the general situation.

"What this country is going to amount to," declared Mr. Riley, "depends not so much on the resources of which we have heard this morning, but upon the character of the men who undertake the development of these resources. Don't try to make every last cent—be more interested in building up a good, fair business or factory."

"You've either got to establish industries and factories or you will lose your surplus population in exactly the way that Ontario did. You have built up merchandizing centres in this country," said Mr. Riley; "you must start manufacturing centres. Are you going to risk your money in this line or are you going to let things drift? Don't imagine you will get all the money you will need from the States or the east. The men who have made their money here must put it back into production here.

"But someone says, 'we have no cheap labor.' We don't want cheap labor," said Mr. Riley, emphatically. "What we want is efficient labor." (Applause.)

When Mr. Riley declared that he hoped and prayed that the country from the lakes to the mountains would be settled by English-speaking people, the big audience applauded him.

"We've had enough of the foreigner from Europe," he declared. "When the European comes here he does not know the language. It is at least the second generation before these settlers are of real use. We must have the English-speaking settler in order properly to develop this country."

A Big Conservation Dam

How the Flow of Water in the Spanish River Will be Regulated in Future

(From "Conservation")

A water conservation work of vast importance is that at present under construction at Big Eddy, on the Spanish river, Algoma district, Ont., for the International Nickel Co. The conservation dam will raise the level of the river 100 feet, and will create a lake with an area of 15 square miles. Combined with the storage in the upper third of the Spanish River watershed, it will increase the minimum flow to over 1,800 cubic feet per second, or almost three times the natural low-water flow, *viz.*, 675 cubic feet per second. It will also create a power site where 15,000 h.p. can be continuously developed.

The engineer who designed this work, Mr. Henry Holgate, of Montreal, in reporting on the matter to the Commission of Conservation, states that:

"When this work is complete, the waters of the Spanish River above the Township of Hyman will be conserved to their full extent, and this will be one of the most complete systems of water conservation in Canada.

"Conserving water, and regulating flow on our streams, is one of the most important subjects we have before us, and merits the co-operation and assistance of the Government, as it should be a cardinal principle in power development that the full efficiency of the water in the watershed be made use of, and this cannot be done unless carefully considered systems of storage are provided, so as to equalize the flow as nearly as possible throughout all seasons of the year."

New Price List Issued

Mills Adopt a New Standard in Pricing Cold Rolled, Cold Drawn, Turned and Polished Steel

A new price list has been issued by the United States mills, and adopted by the Canadian mills, for cold rolled, cold drawn, turned and polished steel, and as there is apt to be confusion in the minds of buyers when the new list comes out with such radical changes, an explanation of this list may be a help to readers.

Ever since cold drawn steel appeared on the market, it has been sold on the basis of a list price for the various sizes and shapes, with a discount which varied according to the market; therefore all quotations were made in the form of a discount. The new list now takes the same form as the hot rolled steel, or iron bars, namely, a base price with extra for size and shape. It is only necessary for the buyer to know the base price and to add the extra for the particular size or sizes he may be ordering. The base price applies to all material covered by the new price list, that is, the same price base is applicable to rounds, squares, hexagons and flats, or other shapes. It is not necessary to remember the list price of each individual size, and take the discount from it, but all that is required is to remember the extra that the different sizes take over the base price.

A New Product

Hamilton Motor Works, Limited, Manufacture Hand Oil Pump for Attachment to Oil Barrels

Among new products being produced by Canadian manufacturers is a hand oil pump for which the Hamilton Motor Works, Limited, are responsible. The purpose of the pump is to do away with the waste and fire hazard more or less inseparable from the use of the ordinary type of faucet when attached to a barrel of oil. With the hand oil pump any desired quantity may be drawn from the barrel and it does away with the oil-soaked floor and waste of oil. There are two adjustable stops on the pump so that it can be set to pump any desired quantity up to one quart. There is also a lock with two keys provided, so that the apparatus can be locked up.

New Paper Products

The Rolland Paper Company, Limited, are introducing a new Canadian paper product—Rolland Antique Linen and Rolland Antique Vellum—and have been sending out samples. Rolland Antique is a superior paper of pleasing and distinctive appearance. It is strong and durable with a clear, even texture, and is recommended for the better class of letterhead, whether printed, embossed or lithographed.

The Newmarket Explosion—a Danger Signal

What About Your Feed Water?—Root of the Trouble at Newmarket Appears to Have Been Due to Action of Chemical Constituents in Fluid Drawn from an Artesian Well, Causing Caustic Embrittlement of Plates

By A. E. EDKINS

Chief Inspector, Boiler Inspection and Insurance Co. of Canada

WHILE it is now some time since the disastrous boiler explosion occurred at the plant of the Wm. Cane & Sons Co., Limited, Newmarket, it is only recently that the investigation into the causes of the disaster has been completed, making possible a review of the circumstances surrounding the accident. It goes without saying that the explosion gave much food for thought and study among engineers, boiler inspectors and mechanical men generally, while it proved to be just another striking example of how, after every human precaution seems to have been taken to make the use of steam boilers safe in industrial establishments, explosions may and do occur.

The boiler that failed was one of two, double-drum B. & W. boilers, built in Great Britain, and of standard design and construction for 150 lbs. working pressure.

The two boilers were installed in 1903 to replace four H.T. boilers, one of which had exploded causing the death of two persons and also considerable property loss. The explosion of this H.T. boiler was definitely traced to a longitudinal lap crack defect, such as occasionally occurs in that type of boiler construction, it being a defect which is very hard and sometimes impossible to detect. Wm. Cane & Sons, after their experience with the explosion of this H.T. boiler, decided to install the B. & W. boilers, even though it entailed a much greater expense, as such boilers were thought to be practically immune from explosion.

After the B. & W. boilers had been in service a few years they both began to give evidence of trouble by leakage and cracking at cross-box flange seams. The cracks ran from rivet holes to edge of plate and were very slight at first, not being considered in any way serious. However they increased gradually each year, and finally cracks began to develop from rivet hole to rivet hole. The leakage and defects became so serious that in 1914 new cross-boxes were ordered to be put on. When the old cross-boxes were removed it was found that the steel plate in the flanges was so hard and brittle that it would break off like cast-iron under a smart blow with a hammer.

It was also found that cracks had developed between the rivet holes in the shell plates of steam and water drums at the cross-box flange seams, making it necessary to put in new half sheets at each end of drums where these defects had developed. Considerable thought was given to try and locate the cause of the defects referred to, but no satisfactory solution was forthcoming. The repairs were made in a first-class manner and the boilers were tested on completion by an Inspector of the Boiler Inspection & Insurance Co. of Canada, and an Inspector of the Ontario Government Department to 225 lbs. hydrostatic pressure, being allowed 150 lbs. working pressure. It was thought by everyone interested that the trouble with these boilers was now at an end (as it had been assumed that perhaps it might have resulted from the plates being too high in carbon, or the workmanship—rivetting—inferior). It was, therefore, a great surprise to all concerned when, after about two years operation lap cracks and leakage began to develop again at the cross-box flange seams of both these boilers, and to cap the climax, on June 12th, No. 2 boiler exploded.



Appalling Effect of the Explosion

Photograph of the wrecked portion of the plant, taken immediately after the bursting of the boiler; the latter may be seen in the centre background

The writer on being advised of the disaster by telephone, immediately took the car out to Newmarket and was on the spot examining the exploded boiler within 2½ hours after the accident occurred, and therefore saw condition of boiler and the appearance of fracture of plate before any change, due to atmospheric conditions, could take place.

The rear head of the left hand drum of No. 2 boiler had blown out as a result of a crack having developed in the lap of the flange of the head for

nearly two-thirds of its circumference, said crack having started from the outer surface of the plate, where it was hidden from view by the plate of the steam and water drum. In places from and below about the water line, the crack had extended nearly through the plate of the head, running circumferentially just outside and in some places just into the edge of rivet holes of the head flange seam. It was evident that the rear head had first given way at the bottom side where the crack had extended nearly through the plate and from which point up to about the water line the fracture showed that the plate had become of a very brittle or crystalized nature, very much like cast metal, while the part of the head at the top which had remained attached to the drum, and which had been severed by the force of the failure of the lower part of the head showed a reduction of about 20 per cent. in area, and the fracture had every appearance of good homogeneous, ductile steel plate of good quality, while, as before stated, the plate at the fracture from and below the water line had the appearance of being just the reverse in quality.

> "I WOULD advise all steam users who draw their boiler feed water from artesian wells to have a sample of water analyzed at once and thus make sure whether or not it contains anything in its composition that would have a tendency to cause deterioration of boilers by 'embrittlement' of the plate."
>
> —A. E. EDKINS

This fact, coupled with the defects and trouble that had formerly occurred with the original and the renewal cross-box flange seams, would indicate that no fault could be found with either the original quality of the plate or the workmanship of boiler, but seemed to indicate that some deterioration of the plate had gradually ensued from some obscure cause after boiler was put into operation. After consultation with Mr. S. F. Jeter, Chief Engineer of the Hartford Steam Boiler Inspection & Insurance Co., and Mr. Coombe of the Babcock and Wilcox Co., the conclusion was reached, that the accident occurred as a result of embrittlement of the plate of boiler through the action of some ingredient in the feed water, which under certain conditions, as to temperature, etc., has been found to have such an effect on steel boiler plate. Chemical analysis of the feed water from the artesian well from which a part of the feed for the boiler in question was taken, has been made in the laboratory of the Babcock and Wilcox Co., who report that said water contains a considerable quantity of chemical constituent that would cause embrittlement of steel boiler plate. Chemical analysis of the plate of the head of boiler which failed has been made by the Chemical Department of the Hartford Steam Boiler Inspection and Insurance Co., which has proved that the plate in question was in a highly embrittled state, and it would seem that the accident to this boiler can only be satisfactorily accounted for as a result of the "Caustic Embrittlement Theory."

The University of Illinois Engineering Department has made tests and experiments, which have proved, that, with boilers using feed water from artesian wells containing certain constituents of an alkaline nature, the steel plates of boilers may become affected by embrittlement, and I understand that further tests are to be made in this institution, with a view to gaining more definite information in regard to the matter.

The Wm. Cane & Sons Mfg. Co. are having four entire new drums put on their two B. & W. boilers, and have decided to change the source of their boiler feed water from the artesian well, and take it from the river after passing it through a filter chamber.

The Functions of Canada's New Office in New York

By J. T. STIRRETT
General Secretary, Canadian Manufacturers Association

CANADIAN business men will be interested in the opening of a Canadian Government Office at 1463 Broadway, New York. It is known as the Canadian Bureau of Information and is in charge of Lt.-Col. John A. Cooper, a well-known journalist, who has recently returned from service overseas.

The primary object of the Bureau will be the maintenance of friendly relations between the United States and Canada. The trade between the two countries has reached tremendous proportions and is still growing. Canada is now selling over four hundred million dollars worth of products annually to the United States, or three times as much as in 1913. Similarly the sales of United States goods in Canada have grown just as rapidly and now amount to about eight hundred million annually. The total trade between the two countries has been multiplied by ten in the past twenty years.

Just what the future development will be remains to be seen. As the United States is now selling Canada twice as much as it buys, it is reasonable to assume that Canada's exports are likely to increase faster than her imports. It will be difficult to maintain the present situation where Canada must pay $400,000,000 in cash to cover the excess of United States sales to Canada. Already the rate of exchange is an indication of the difficulty of maintaining this condition. Col. Cooper reports that his preliminary investigations indicate that the United States manufacturers realize the gravity of the situation and are urging the authorities to consider the financial difficulties raised by the rise in exchange. They fear that the Canadian Government may be forced to put an embargo on the entry into this country of certain forms of luxuries as was done during the war. Even if that does not occur, they fear that the Canadian consumer will not pay the extra five per cent. which is added to the cost of United States imports through the working of the exchange.

Col. Cooper's business will be to supply the United States newspaper writers, financiers and exporters with the fullest information about the Canadian situation and thus facilitate any movement of American capital to this country which may be found necessary. As the annual national income of the United States is estimated at over 50,000 million dollars, it would be easy for the United States to spare the 400 millions required to finance Canada's present purchases.

Any Canadian exporter desiring to increase his sales in the United States is invited to consult the New York Bureau, as it may be able to render him assistance.

What Has Happened to Our Express Rates

Radical Changes in the Basis of Rates May Look Somewhat Complicated in the Railway Board's Forty-eight page Judgment, but they will be Readily Grasped after a Perusal of the Following Summary

By S. B. BROWN

Assistant Manager, Transportation Department, C.M.A.

AFTER wrestling with the express companies' case from November of last year until July of this year, the Board of Railway Commissioners for Canada has at last completed its task and a lengthy judgment extending to 48 pages of its reports has been issued. The case originated with an application from the express companies for increased rates and involved the allied questions of charges, practices, classification and delivery limits. It was made the subject of numerous hearings and much argument and eventually radical changes have been allowed by the Board in the basis of rates, method of statement of rates in tariffs and basis of delivery limits. For the benefit of readers of INDUSTRIAL CANADA, who may not feel inclined to plough through the intricacies of the judgment itself, the following summary has been prepared.

Basis for Making Rates

Division of Territory.—The application proposed to divide the Dominion of Canada for express rate making purposes into three zones, as follows:

(*a*) East of and including Windsor, Sarnia, Sudbury, Ont. (except Temiskaming & Northern Ontario Railway) and Parent, P.Q.

(*b*) West of Sudbury and Parent (including Temiskaming & Northern Ontario Railway) to and including Crow's Nest, B.C., Canmore, Edson and Tollerton, Alta., also on interchange traffic between (*b*) and (*a*).

(*c*) West of and including Crow's Nest, B.C., Canmore, Edson and Tollerton, Alta., also on interchange traffic between (*c*) and (*a*) or (*b*).

The Board in its judgment allowed this grouping. The arrangement is practically the same as at present except that traffic moving from Zone (*a*) to points on the T. & N. O. are now made by taking rates under present Scale (*a*) and adding 25c. to each rate. Vancouver Island, now having a slightly lower scale than the present rates in B.C., has been added to zone (*c*).

First Class Mileage Scale

Prince Edward Island has been added to zone (*a*). Formerly rates to the Island were made by adding arbitrary for the ferry service. Now it will be the through rate under zone (*a*).

Merchandise or First Class Mileage Scale.—The application proposed to establish rates on a mileage basis starting at 50 miles and advancing by 50 mile blocks to 2,000 miles in zone (*a*); to 3,400 miles in (*b*) and to 4,000 miles in (*c*), the greater distances in (*b*) and (*c*) being required for the purpose of naming joint rates between the different zones; the rates beginning at 80c. per zone (*a*); 85c. for (*b*) and 90c. for (*c*), and advancing by 20c. in zone (*a*); 25c. in zone (*b*) and 30c. in zone (*c*), for each block up to 1,000 miles. Over this distance the advance in the scale tapered in a somewhat irregular manner from 15c. to 5c. per block in (*a*); from 20c. to 10c. in (*b*) and from 25c. to 15c. in (*c*).

The irregularities in the scale over 1,000 miles caused the Board to order a modification so that the scale would be made more regular, the judgment, page 158, setting forth the following scale:

	Per Block		
	A	*B*	*C*
Over 1,000 miles to 1,200 miles.....	15c.	20c.	25c.
" 1,200 " " 1,800 "	10	15	20
" 1,800 " " 2,000 "	5	10	15
" 2,000 " " 2,500 "	..	10	10
" 2,500 " " 3,400 "	..	5	5
" 3,400 " " 4,000 "	..	..	5

After making a study of the statements filed by the express companies and the railway companies, the Board came to the conclusion (page 148) that the basis for rail service (which covers transportation movement from point of origin to destination) should be 1½ times the average first class standard freight rate, which amounts to 20c. per block in zone (*a*); 25c. per block in zone (*b*) and 30c. per block in zone (*c*) up to 1,000 miles, after which the scale as hereinbefore mentioned is applied. (In this connection see tables at pages 152 and 153 of Judgment.)

The Board also found that the proper amount to cover the express companies' service should be 60c. per 100 pounds, or 30c. each at point of origin and point of destination. The work of the express companies consists of billing, loading at point of origin, care by messenger in transit, unloading at point of destination, collection and delivery where such services are established, necessary clerical work and auditing, together with liability for loss and damage claims. This amount is the same as named in the application of the express companies.

Second Class Rates

Comparisons of the present and proposed rates in the three zones will be found on pages 155 and 157 of the Judgment.

Scale "N" or Second Class Rates.—At the present time Scale "N" covers more or less perishable articles made up mainly of products of the farm and fisheries (see page 160 of Judgment). The rates for this scale are per 100 lbs. approximately 80 per cent. of the mdse. rate. The express companies in their application have changed this scale to read "Second Class" and have made it per 100 lbs., 75 per cent. of the first class rate, which the Board allowed.

Scale "K."—This scale at present covers various beverages (see page 166 of Judgment). The rates named therein range from 25 per cent. to 40 per cent. below mdse. rates. The express companies proposed to eliminate this scale and apply the new first class rates. The Board, however, found that the articles named in Scale "K" properly belong in the new second class scale, which as hereinbefore stated will be 75 per cent of the first class rates per 100 pounds.

Section "D."—This section applies on books, calendars, circulars, and other printed matter, etc. (See page 165 of Judgment.) The rate charged is 1c. for each two ounces or fraction thereof, subject to a minimum charge of 10c. for each zone except on shipments between points one of which is east of Sudbury and the other west of Winnipeg, in which

case the minimum charge is 15c. The liability is limited to $10.00 per shipment and the weight to 5 pounds, except single books which are limited to 10 pounds. The application of the express companies to cancel this section has been allowed by the Board on the grounds that it was established in competition with the post office, and being competitive the express companies have the right to withdraw it when they see fit.

500 Pound Special.—This scale covers shipments in lots of 500 pounds and over, and was established apparently for the purpose of securing shipments which might otherwise move by freight, and is therefore of a competitive nature. The rates are on the average 22 per cent. below the mdse. rates, and as this is not as low as Scale "N" or Scale "K" such traffic did not move under it. The Board finds that the scale is discriminatory in that it gives larger shippers an advantage over smaller ones, and orders it cancelled. The application of the express companies desired this action.

Commodity Rates

Commodity Rates.—In addition to the "Mdse.", "Scale N," "Scale K," "Section D" and the "500 Pound Special," the express companies have a number of commodity rates applicable to staple food products, chiefly fish, (fresh, dried or smoked), fruit and vegetables. The express companies proposed to eliminate all of these commodity rates and apply the new first or second class rates, whichever would be applicable. The effect of this, particularly on the fish, fruit and cream, would mean an enormous increase in a product which necessarily could not bear but a small, if any, advance at the present time. The rate from Vancouver to Montreal is now $3.00, and the proposal would advance it to $7.20 per 100 pounds. The Board accordingly took the stand that no advance should be made in these rates. However, a slight modification was made in regard to collection and delivery service in connection with such rates, requiring that commodity rates for less than carload should not include the collection service but must include the delivery service at destination. Carload rates must be entirely exclusive of collection or delivery service, but the express companies must switch the cars to team tracks adjacent to passenger stations convenient for unloading without additional charge.

Empty cream cans which are returned at a nominal charge of 5c., including collection by waggon, will in future be exclusive of this collection.

The question of allowing carload shipments of fruit the privilege of partial unloading in transit was given consideration and the Board found that at the present time the express companies allow one opening for this purpose at the charge of $5.00, whereas in the United States two openings are allowed. Accordingly it is ordered that two openings shall be allowed at a charge of $5.00 per opening.

Ruling on Joint Rates

Joint Rates.—A very important portion of the decision is that outlined on page 169, which states that no higher rates shall be charged for carriage where the services of two or more companies have to be used than for a similar mileage to a single company, in other words, joint rates are established on a single line basis.

At the present time such joint movements are charged the aggregate of each company's rate on shipments of 100 pounds and over, shipments of less than 100 pounds taking the graduated charges as appear under such aggregate rate.

The express companies at a hearing in Montreal in connection with this question supplemented their application by filing information to the effect that they desired to state the new rates shown in the application in what are commonly known as "block tariffs" with a view to simplicity in stating rates.

Division of Dominion Into Blocks.—The international tariffs naming rates from Canada to the United States and in the opposite direction have been arranged by dividing the Dominion of Canada into blocks similar to those in effect in the United States, beginning in number from the 49th parallel. The first block is 5,819 at Alberni, B.C., the numbers following along the 49th parallel to Cochrane, Ont. The blocks directly underneath these blocks are numbered so that the last two numbers are the same. The lowest numbered block is 3,102 at Windsor, Ont. The express companies proposed to adopt this same blocking for the rates between points in Canada.

Main Blocks.—Each block measures one-half degree each way and the constant dimension is therefore the north and south length, roughly 34½ miles on the meridian. The width is approximately 23 miles at the 49th parallel.

Sub-blocks.—Each main block is sub-divided into four sub-blocks by lines intersecting at right angles at the centre. These blocks are lettered A, B, C and D.

Method of Stating Rates.

(*a*) *Between Sub-blocks in One Main Block.*—The appropriate rate between any two sub-blocks is arrived at by following the line of railway and counting each sub-block as 15 miles north and south and 12½ miles east or west.

(*b*) *Between Sub-blocks and Adjacent Main Blocks.* The rates from a point in any main block to a point in each of the three adjacent main blocks, in any direction, are made in somewhat the same way as the rates between two sub-blocks, that is, the sub-block in which point of origin is located is taken as the basing block, and the line of railway is followed from point of origin to final destination, counting 12½ miles east or west and 15 miles north or south.

(*c*) *Between Main Blocks.*—The rates between any two main blocks, that is a block at destination being more than three from block of origin in any direction are made by establishing a base point in block of origin and block of destination as near the centre as may be practicable, preference being given to large commercial or distributing towns and points which are common to two or more express companies. The distance between these two points following the line of railway is then determined and the rates as appearing in the mileage scale applied. These rates would therefore apply from all points in block of origin to all ponts in block of destination, although the actual mileage between some points would be less or higher than between base points.

Directory of Express Stations

Joint Directory of Express Stations.—As part of the block system tariffs, the express companies provided this directory for the Dominion of Canada, which shows in alphabetical order, by province and town, each station together with express company or companies serving it, and also the main block numbers and sub-block letters, to be used in determining its location and the rates to apply. In this way each main block will have one tariff naming rates from all points in that block to all points in the Dominion of Canada, giving the agent a quick and simple method of determining rates.

Graduated Charges for Less than 100 Pounds.—The present graduated table carried head line or rates per 100 pounds having a spread of 10c. from the 40c. to the 60c. rate; and 15c. from the 60c. to the 90c. The 90c. to $1.00 is only 10c., while all those over $1.00 were subject to a uniform spread of 25c. For example: The first head line or rate per 100 pounds is 40c., the next 50c., the next 60c.—or a spread of 10c. between each. This is followed by 75c. and 90c., or spreads of 15c. Then $1.00, after which the 25c. spread occurs uniformly starting with $1.25.

The application of the express companies proposed to make a uniform spread between each headline or rate per 100 pounds of 10c. Owing to the establishment by the Board in the judgment of different rates where delivery service

is not performed, multiples of 5 had to be introduced, so the graduated table as ordered is the same as that applied for by the express companies except that multiples of 5 have been inserted in the headline rates, and appropriate graduated charges named thereunder. Further explanation will be found under "Delivery Limits."

At the present time the graduated table begins at 1 pound and advances by 1 pound up to 10 pounds, after which it advances by 5 pounds. The scale as applied for by the express companies and ordered by the Board advances by 1 pound up to 15 pounds, after which it advances by 5 pounds. There is also quite a revision in the scale of charges. The effect of this revision is to actually make some reduction in shipments weighing between 10 and 50 pounds. (See page 162 of Judgment.) The minimum charge is, however, advanced from 25c. to 30c. per shipment.

Free Delivery Limits

At the present time the express companies collect and deliver shipments free of charge at a number of points throughout the Dominion of Canada, or in other words, the rates from point of origin to point of destination include both collection and delivery service.

A great many complaints have been made in the past few years dealing not only with free delivery area and the fact that it did not include certain districts, particularly in large centres, but also to the fact that the express companies did not maintain the service at a great many points although the rates charged were the same as between points where the service was given. This question was considered to a certain extent by the Interstate Commerce Commission in the United States at the time they ordered into effect the block system of tariffs and rates in that country, but they could not come to any definite conclusion as to what should be done, and to-day they handle the situation the same as the express companies in Canada.

The judgment of the Board deals very fully with this question (pages 171 to 179), and the Chief Commissioner has decided that some thing can be done to prevent the apparent discrimination as between cities getting the service and cities not receiving service. He accordingly ordered that where no waggon service is given, that is collection at point of origin or delivery at destination, the rate per 100 pounds shall be reduced by 30c., and where only one of the services is given, either collection at point of origin or delivery at destination, 15c. must be deducted from the rates per 100 pounds. For example, take where no service is given and the rate between point of origin and point of destination including service is $1.10, the rate without the service would be 80c., and where only one service is given the rate would be 95c. Shipments of less than 100 pounds to take the appropriate graduate rate as appearing under the reduced headline rate.

The express companies also made an application to the Board for the establishment of a uniform basis for determining the free delivery of collection areas at different points, along the lines of dividing the city or town into one-quarter mile squares and determining the free delivery area by the number of population for each quarter mile square. The Board gave this matter very careful consideration and ordered the basis in effect. (See page 177 of Judgment.)

The following will explain this matter clearly:

1. The corporate area shall be mapped into four parts by lines intersecting at right angles at a centrally located point, and based on these lines each such part shall be divided into squares measuring one-quarter mile each way, hereinafter called "blocks."

2. The minimum qualification for free cartage shall be four adjoining blocks, each containing at least 100 families in places with a population of 5,000 or over, and 50 families in places with a population of less than 5,000; except that in places with a population less than 1,000, free cartage may be provided in the discretion of the company. Industrial plants and business houses shall be initially reckoned as one family of five (or less) regularly employed persons, and each additional five as one family more.

3. From said four primary blocks each successive block conforming to the requirements of rule (2) shall be included in the free cartage area.

4. Any block not conforming to the minimum requirements of Rule (2) but which is bounded on three sides by cartage blocks, or through which express vehicles necessarily pass, shall be included in the free cartage area.

5. Four or more contiguous blocks conforming to the requirements of Rule (2), but separated from the free cartage area hereinbefore defined by not more than one-quarter mile (air mileage) shall receive the free cartage service.

6. Industries, or business or public institutions, in non-cartage blocks shall receive the free cartage service, provided they are not more than one-quarter mile from the nearest cartage block, and the intervening area shall also be so served.

7. A detour of more than one-quarter mile outside the free cartage area, in order to use an intervening bridge or vehicular ferry, is not hereby required.

8. Free cartage is not required by these rules beyond the corporate limits, nor within such limits where or when the roads are not reasonably passable by express vehicles.

9. The boundaries of the free cartage area shall be defined by thoroughfares or topographical features nearest or most convenient to the farthest lines produced by these rules.

Free cartage shall also be extended to a thoroughfare beyond but bordering the cartage limit, provided that at least 75 per cent. of its lots within a block are occupied, and that convenient cross connections exist; such thoroughfare to become the provisional limit with respect to the next thoroughfare beyond but adjacent to it that complies with the said minimum requirement; and so on until a complete block is formed under Rules (1) and (2).

A description of the local free cartage limits shall be posted in the express office at each cartage point and filed with the Board.

10. Should the traffic at any cartage point be so limited as in the judgment of the company not to warrant the expense of furnishing its own vehicles, an independent agency shall be employed by the company at its own expense, and shall be used until and unless the company is able to show to the satisfaction of the Board of Railway Commissioners that the price demanded for such service is unreasonable.

Joint Freight Rates

Board Orders Basis of Joint Freight Rates in Eastern Canada by Judgment and Order No. 28618, dated Ottawa, August 1st, 1919

The question of establishing a basis for joint rates to apply on shipments moving between points on one railway to points on another, has been under consideration for a number of years.

At the present time there are joint rates in effect between the C.P.R. and the Michigan Central, Pere Marquette, Chatham, Wallaceburg & Lake Erie, Wabash, and T.H. & B. The G.T.R. have similar joint rates with these lines. There are also joint rates in effect between the C.P.R. and G.T.R. on the one hand and the portions of the Canadian National Railways, formerly known as the "Central Ontario," the "I.B. & O." and the "Bay of Quinte" on the other. There are also several other joint rates arrangements between the larger systems, the C.P.R. and G.T.R., and various small roads. This leaves joint movements between the C.P.R. and G.T.R. and other portions of the Canadian National Railways, particularly between Montreal and Windsor, without any basis for joint rates.

As has been stated, the question has been under consideration for a number of years. The G.T.R. and C.P.R. endeavored to meet the situation and filed with the Board of

Railway Commissioners, effective May 1st, 1918, tariffs naming joint mileage class rates to cover such movements. Objection was raised to this tariff on the grounds that the rates so named were too high and really made advances over the existing joint through and combination of local rates. The basis for this tariff was the standard mileage rate plus 4c. per 100 pounds first-class up to 110 miles, 2c. 110 to 120 miles, with no addition beyond this distance. To this was of course added the 15 per cent. as allowed in the "15 per cent. advance" case.

The new Order and Judgment of the Board establishes a basis for joint rates within the territory bounded roughly by Windsor, Sarnia, Lake Huron, Georgian Bay, Sudbury on the west, and on the north by and including the C.P.R. Sudbury to Mattawa and the Ottawa River, and on the east by Quebec and Megantic. This is roughly the territory covered by the Internationl Rates Case Order 3258, dated July 6th, 1907, as amended.

The rates to be used are those shown in what is known as "Schedule A" (a scale of mileage class rates forming part of the Order in the International Rates Case) plus the following amounts in cents per 100 pounds:

1	2	3	4	5 to 10
8	7	6	4	2½

The mileage scale referred to is that now in effect for a one-line haul on the C.P.R. and the G.T.R., except in a few cases where maximum rates have been established from Windsor, Buffalo and Hamilton. The addition of the amounts just mentioned is stated by the Board to cover an additional charge for cost of transfer from one line to another as well as a certain amount for a two-line haul. The order requires that the railway companies shall prepare tariffs naming rates from point to point. They must also consider the various provisions as to grouping and the maximum rates between certain points as outlined in the International Joint Freight Rates.

Rates Case Order

In connection with the point of interchange the Board have specified the junction points at which such transfer, from one line to another, shall take place, the points named being as follows: Lennoxville, Actonvale, St. Rosalie, Montreal, Ottawa, Renfrew, Brockville, Kingston, Peterborough, Toronto, Orillia, North Bay, Essa (Utopia), Inglewood, Milton, Guelph, Tillsonburg, Woodstock, London, Mount Forest. All shipments moving under these rates are to be subject to a minimum charge of the first-class rate per 100 pounds point of origin to destination, but not less than 75 cents.

It would be rather difficult to prepare a comparison of rates which would be of interest to all members and show the rates which would be put into effect in accordance with the order. However, there is no doubt that this new basis will make a reduction in a great many cases from the present arrangement. It might be pointed out that the judgment of the Board shows a comparison for specified distances as between the rates which would apply under the Order of the Board and those which were proposed by the G.T.R. and the C.P.R. in the tariffs which they submitted to the Board to take effect May 1st, 1918. This comparison shows that the rates now ordered are considerably lower than those proposed by the carriers. The Order requires that the tariffs naming the rates shall be filed with the Board to become effective not later than October 1st, 1919. As the rates shown therein will be reductions from those now in effect, the carriers will not be required to give more than 3 days' notice as provided by the "Railway Act."

Further announcement will be made as soon as the tariffs come to hand.

In connection with this question it is interesting to note that the Railway Act has recently been amended, making it mandatory rather than permissive, that the carriers establish joint rates. Section 336 formerly read that the carriers "may" establish joints rates, and this has been changed to read "shall" establish joint rates.

It will be noted that there is no junction point provided in the Board's order for traffic moving between the C.P.R. and the G.T.R. on the one hand, and the Canadian National Railways on the other, between Toronto and Montreal. It is our understanding, however, that arrangements will be made for applying the basis named in the order between these lines at junction points such as Napanee, Bonarlaw, Trenton, This refers particularly to movements between local points on the Canadian Pacific Railway, such as Peterborough, and points on the Central Ontario Railway such as Picton.

Cartage Charges

New Schedule which Became Effective at Cartage Points on September 4th

For the information of our members we show herewith a complete list of the "Cartage Points" where the railway companies' cartage agents maintain such service, together with the old and new charges and list of "Exceptions."

	carloads.	Less carloads.	Smalls—Minimum charge in cents for any one consignment. 300 lbs. and under.		Over 300 lbs.	
	Cents per 100 lbs.					
	New. Old.	New. Old.	New.	Old.	New.	Old.
Montreal, Que., GT, CN, CP. Atwater, Que., C.P. Hochelaga, Que., CP. Mile End, Que., CP. St. Henry, Que., CP.	5 4½	7 6	30	25	40	35
Toronto, Ont., GT, CN, CP.. Don, Ont., GT, CP North Toronto, Ont., CP.... Parkdale, Ont., GT, CP.... West Toronto, Ont., GT, CP	4 3¾	6 5	30	25	40	35
Guelph, Ont., GT, CP. Ottawa, Ont., GT, CN, CP.. St. Hyacinthe, Que., GT, CN, CP. Three Rivers, Que., CP.	4 3½	5 4	30	25	40	35
Bothwell, Ont., CP. Chatham, Ont., GT, CP. Glencoe, Ont., CP. St. Thomas, Ont., GT, CP... Sarnia, Ont., GT. Thamesville, Ont., CP. Tilbury, Ont., CP.	3½ 3½	4 4	25	25	35	35
Brantford, Ont., GT, TH & B Hamilton, Ont., GT, CP, TH & B St. Catharines, Ont., GT, CN	3½ 3½	5 4	30	25	40	35
London, Ont., GT, CP	3½ 3½	4 4	30	25	40	35
Windsor, Ont., GT, CP. Walkerville, Ont., GT.	3½ 3½	5 4	35	25	50	35
Valleyfield, Que., GT	3½ 3½	4 4	25	25	25	25

CN—Canadian National Railways.
CP—Canadian Pacific Railway.
GT—Grand Trunk Railway.
TH & B—Toronto, Hamilton and Buffalo Railway.

Cartage charges will be collected on the basis of actual weight subject to the minimum provided in the Canadian Freight Classification.

These charges apply on freight rated 1st, 2nd, 3rd, 4th and 5th class in Canadian Freight Classification No. 16, supplements thereto or reissues thereof, except articles shown under the heading of "Exceptions."

Cartage charges shown herein will not apply on,—

Freight carried under Canadian Freight Classification classified lower than 5th class.

Freight carried under other classifications which may classify therein 5th class or higher, but which is lower than 5th class in Canadian Freight Classification.

Freight weighing 2,000 lbs. or over, per piece or package.

Freight in bulk, carloads, classifying 5th class or higher.

Freight for private house delivery.

Acid in Carboys or Demijohns.
Agricultural Implements.
Ash Sifters.
Baby Carriages.
Bakers' Ovens.
Bananas, not crated.
Bar and Shop Fittings and Furniture.
Baskets.
Baths.
Boats.
Bone Black, in bags.
*Broom Stock.
Brooms (straight shipments).
Cereals (straight shipments).
Churns.
Cork.
*Conductor Pipes.
Cream Separators.
*Culverts.
Doors, Windows.
Door and Window Sashes and Frames, including Skylights and Ventilators, Metal or Wooden.
Dressed Meats (except hogs), unless properly canvassed or otherwise protected.
*Dry Hides.
*Eave Troughing.
Elevators (and parts thereof).
Empty packages or containers, new or old: except when K.D. Flat, whether loose, nested, jacketed, in crates, or boxes, or otherwise, including Caskets and Coffins.
Excelsior.
Feathers.
*Flax Fibre.
Furnaces (and parts thereof).
Furniture, Sewing Machines and Billiard Tables, including Clothes Lockers, Metal or Wooden.
*Garden Utensils.
Glass in Packages, exceeding five (5) feet in height or length.
Globes, Glass and Electric.
Hats.
Household Goods and Settlers' Effects.
*Ice Cream Cones.
Iron and Steel Products exceeding twenty (20) feet in length.
*Iron Farm Gates.
Joiner's Work, Loose Lumber and Ladders.
Lamp Black, in bags.
*Lamp Chimneys.
Leather, Loose.
Machines and Machinery (all kinds).
Marble and Slate Slabs.
Organs, Pianos and Musical Instruments and parts thereof.
*Picture and Mirror Frames and Mouldings.
*Popped Corn Confectionery.
Portable Buildings.
Rags, Bones, Scrap Metal. Scrap Paper and Scrap Rubber, in bags or uncompressed bales.
Safes and Vault Doors.
Screen Doors and Window Screens.
Show Cases.
Signs, not boxed or exceeding (5) five feet in height or length.
*Stove Pipes and Elbows.
Stoves (and parts thereof).
Trunks (empty or full).
Vehicles, Automobiles, Bicycles, Motor Cycles (and parts thereof, including Tires).
Wadding (Cotton).
Washing Machines.
*Willow Reeds.
*Woodenware.
Wool, Hair, Shoddy and Wool Stock, Mill or Cotton Sweepings.

*Added, effective September 4th.

Freight Men Shifted

Changes Consequent Upon Resignation of Guy Tombs from Canadian National Railways

In a circular issued by Mr. George Stephen, Freight Traffic Manager of the Canadian National Railways, the promotion of Mr. A. T. Weldon, to the position of Assistant Freight Traffic Manager at Montreal, with jurisdiction over all lines east of Port Arthur and Armstrong, Ont., is announced. Mr. Weldon previously held the position of Assistant Freight Traffic Manager at Moncton, N.B., with jurisdiction over the lines of the Canadian National Railways in the Maritime Provinces only. Mr. Weldon will be succeeded at Moncton, N.B., by Mr. M. F. Tompkins, who will have jurisdiction in freight traffic matters over the lines of the Canadian National Railways east of Matapedia, Que., and Edmundston, N.B., with the title of General Freight Agent. These changes are consequent on the resignation of Mr. Guy Tombs, formerly Assistant Freight Traffic Manager at Montreal, who left the railway field to engage in commercial work.

The branch factory in Galt of the Williams, Greene & Rowe Co., shirt manufacturers, Kitchener, which was opened on August 11th, in the Kerr Block, is reported to be doing well, and fifty machines are in operation. It is stated that no difficulty is being experienced in getting help.

Will Manufacture Buttons

International Button Co., a New Enterprise, Will Locate Plant in Arnprior

According to an announcement appearing in the Arnprior *Chronicle*, the International Button Co., Limited, will establish a factory in that town. Negotiations have been in progress for some time between the local Board of Trade and Messrs. W. C. Thompson and H. C. Bellew, of Montreal, president and secretary respectively of the company.

The International Button Company, Limited, are a newly incorporated organization. Mr. Thompson has had a great deal of experience in the manufacture of buttons in the Old Land and in the United States, and he came to Canada at the suggestion of the Canadian Government to enquire into the possibility of this and other industries that have been largely confined to Germany and Austria. They have had the latest improved machinery built for them and they are prepared at once to begin manufacturing. Their purpose is to erect a factory to employ 200 hands, but they have already marketed their entire output for two years, and as it will delay matters to wait for the construction of a new factory, they will probably lease the old clothes pin factory and premises for the present, renovating and enlarging it.

At the commencement the company will employ at least fifty hands, with a weekly payroll of $500; this they expect to double within six months.

The raw product used is vegetable ivory, and this will be brought from South America in shipload lots.

An Important Incorporation

An Eight Million Dollar Corporation to Develop Iron Ore Deposits has been Formed

A charter for $8,000,000 was issued on August 13, to the Consolidated Iron & Steel Corporation, Limited, a company of Detroit and Toronto parties engaged in the mining business. The company is essential Canadian, with head offices at 20 King Street East, Toronto. They own two large deposits of proven iron ore lands and it is their intention to proceed in a large way with their development.

The company has opened a large hematite mine on the C.N.R. in the County of Leeds, 25 miles north of Brockville at Furnace Falls, where they have 1,500 acres. The early settlers erected a smelter at this place 110 years ago and it was operated in a primitive way the ore being ground out by water wheel. It still retains the name given to the place at that time. This was in the days when Lake Superior and Pennsylvania ores were almost unknown. The City of Brockville has offered inducements to the company to build a pig iron smelter there, and it is being seriously considered as there is a surplus of electric energy at a low rate. As the mine has excellent transportation facilities, ore can be shipped by the St. Lawrence, either west to Canadian and United States markets or east to Montreal, Ottawa, and European markets.

Their other property consisting of 2,500 acres is located at mileage 182 on the Algoma Central Railway. This has been gradually developed since it was discovered in May, 1911. Up to the present time permanent camps have been built and diamond drilling has been carried on from November, 1917. to July, 1918, proving up large deposits of ore to a depth of 500 feet. Prominent iron ore engineers reporting on this property estimate the tonnage at from 800,000,000 to one billion tons of ore. The ore is free from titanium and low in phosphorus and sulphur. Work on both properties is now being carried on, thousands of tons already being piled up at the Furnace Falls mine ready for shipment.

The Plumb Plan of Railroad Administration

Scheme of Ownership and Operation which is Now Receiving a Great Deal of Attention in the United States—Practically Places Control of the Railroads in the Hands of Those who are Deriving their Livelihood from Railway Operation

By HON. ATLEE POMERENE
Member of United States Senate

IN the United States at the present time a great deal of attention is being directed to what is termed the Plumb plan of railroad re-organization and administration. The plan is proposed by the Railroad Brotherhoods and has the support of the American Federation of Labor. Under its terms the Government of the United States would acquire the railroads and hand over the control and operation to what has been termed a "Tripartite Board," the members of which would be selected as follows—one-third by the President of the United States, one-third by the railroad operatives in the official class, and one-third by the railroad employees below the official rank. In other words, two-thirds of the Board members would represent those who were on the railroad payrolls, while one-third would presumably represent the general public.

Valued at Twenty Billions

A criticism of the Plumb plan has been made by Senator Pomerene, which brings to light several of its weak points. The Senator replies to a letter received from one of the railroad brotherhoods in which he is asked to state whether he is for or against the plan. In the course of his reply, Hon. Mr. Pomerene says:

"The railroads of this country, in round numbers, are valued at $20,000,000.000. They are the web and woof of America's industrial, commercial and social life. Under the Plumb plan it is proposed to take this property by purchase or condemnation from its stockholders, among whom are thousands, not to say millions, of the plain people of the country—old and young, the widows and the orphans—and to pay for them in cash payments or by the issuance to such owners of United States Government bonds. In other words, they shall be paid for by the people's cash or by their obligations. They are then to be managed and operated by the national railway operating corporation for 100 years, which shall have a board of directors to be composed of fifteen men, five of whom shall be selected by the classified employees of the railways, five by their official employees, and five to be appointed by the President, not more than three of them to belong to one political party.

"Suffice it to say that you and I both understand—even if we are not willing to admit it—that the ten railway directors will have interests which will be at variance with the interests of the traveling and shipping public, who pay the bill; and while the other five appointed by the President are said to represent the public, which perhaps embraces about 100,000,000 people—I mean the people other than those who will be directly or indirectly interested either as the classified and official railway employees or their families—they will owe their appointment to a political power and, it is my judgment, may be influenced by the political purposes of the party in control of the Government.

"Are you quite sure that when the Plumb plan was devised it was in the interest of 'the masses?' If so, how does it happen that the bill is presented by the brotherhoods alone and their associates? Why were not the interests of the general public consulted?

"In the history of railroad economics do you know of any country anywhere under which any plan akin to the Plumb plan has been adopted; Are you quite sure that it is fundamentally sound to require the Government of the United States to invest $20,000,000,000—about one-twelfth of the total wealth of the country—in this enterprise and turn it over to the operatives for 100 years?

"If the Plumb plan is sound economically and is for the interests of 'the masses,' why do you not suggest that similar legislation be adopted whereby all public utilities, including water works, electric-light plants, gas and heating plants, be purchased and turned over to their employees and operatives, respectively?

"If it is sound and in the interest of *the masses*, why do you not suggest that all the coal mines, iron and copper mines, be purchased by the Government and turned over to the operatives in the same way?

"Why do you not suggest that all the manufacturing and industrial plants of the country be purchased with Government funds or by the issuance of Government bonds and turned over to their operatives in the same way?

"Why do you not advise that all the stores be purchased and turned over to their operatives in the same way?

"Why do you not recommend that all the banks of the country be acquired by the Government and turned over to their operatives?

"Why do you not ask, in the interest of 'the masses,' that the Government purchase all the farms of the country and turn them over to the employees on the farms?

"And, lastly, may I suggest that if one man should happen to own two houses, one of which he rents, why do you not ask that the second house shall be bought by the Government and turned over to the renter?

"Where is this going to end?

"My friends, permit me to say the Plumb plan has nothing akin to it outside Bolshevik Russia.

"It is worse than socialism.

Ownership for a Class

"Socialism contemplates the public ownership of property to be controlled and operated by the public for the public. The Plumb plan contemplates the public ownership of the railroads for a class. As already stated, they are to be taken over by purchase or condemnation, and paid for with the cash or bonds of the whole people and then turned over to the national railway operating corporation, whose board of directors shall consist of fifteen men, ten of whom shall be railroad classified and official employees. As neither class of these employees will have any stock, their interests will be one and the same as against the public. In other words, $20,000,000,000 worth of property bought by money belonging to 110,000,000 people is to be turned over to 2,000,000 railroad men, representing, perhaps, including their families, 10,000,000.

"Does this seem to be for the benefit of 'the masses?'

"Mr. Plumb in his testimony before the Senate Committee on Interstate Commerce in February, assumed that the capi-

tal invested amounted to $18,000,000,000 approximately. In his testimony last week before the Interstate Commerce Committee of the House, he estimated that all the present owners would get for their property is $13,000,000,000. So, according to his own testimony, Mr. Plumb's plan, if enacted into law, will substantially confiscate $5,000,000,000 worth of property belonging to private owners.

"And how is he to pay for this property even at this reduced value?

"He tells the public that he will, by his plan, save to the shippers of the country a large expense, in that these bonds can be sold for 4 per cent.

"The railroads earned during the three years of Government control 5.21 per cent. He does not say who is to buy this perhaps $18,000,000,000 or $20,000,000,000 worth of bonds. He has not named the purchasers.

"May I not remind you that during the last Victory loan, by the best organized, nation-wide campaign conducted by all the patriotic men, women, and children of the country, we sold less than seven billions of bonds at 4¾ per cent. And if, when all the patriotism of the country was back of this campaign, it was so difficult to sell these bonds at par for 4¾ per cent., will Mr. Plumb rise up and tell us where he is going to sell $20,000,000,000 worth of bonds—probably the real value of the roads—at 4 per cent.?

"Ought you not to tell me how you are going to sell these bonds when you ask me to support this proposed legislation?

"Does it not occur to you, when not only the whole nation, but the whole world is disturbed, industrially, economically, and financially, that we had better wait until normal conditions are restored before beginning a scheme so revolutionary as that proposed in the Plumb plan, even if it were sound?

"And what would be the result if it fails?

Should Be More Consistent

"Invoking the principle of brotherhood—a name I love—do you not feel you ought to be consistent, and while asking for this investment of the public funds for your benefit to likewise ask for the benefit of a proportionally equal amount of Government funds for every other business enterprise in the United States, and turn that over to the employees of those several enterprises?

"Does not the principle of fraternity suggest this?

"And by the time we get through with it there will be $240,000,000,000 of Government bonds issued and on the market.

"My friends, this Plumb plan spells ruin for beloved America.

"In the past few years a good many people have urged Federal ownership and control of the railroads, the telegraphs, and the telephones. In view of recent experiences most of them who have had no selfish purpose to serve have changed their views.

"Government control of these utilities has been so complete that it does not differ materially from actual Government ownership, and there is no such radical difference between the present Government control and operation and that provided for in the Plumb plan as to warrant anyone in saying that while the former has been a failure the latter will be a success.

"From the standpoint of operation every user of the railroads, telegraphs, and telephones knows that the service has been worse than during the private control, excepting only the condition of the railroads during the last two months of private control, which was due to war conditions.

"And let me say a word concerning Government control of railroads from a financial standpoint.

"You will remember that the increases in wages during the year 1918 were made retroactive, dating from January 1, 1918.

"Freight rates were advanced 25 per cent., and passenger rates much more, the increase to take effect as of July 1, 1918. Director General McAdoo, in his testimony before the Committee on Interstate Commerce, said to us that if the increase in rates had been for the entire year there would have been a 'substantial surplus for the year of at least $100,000,000 to the Government.' And he added, 'For the year 1919, with all wage increases granted in 1918 operating for the entire twelve months, and upon the assumption that the traffic of 1919 is substantially the same as in 1918 and that the cost of fuel and supply remain the same, it is estimated that there should be a surplus to the Government over and above the standard return of approximately $100,000,000.

"As I now recall, Director General Hines gave substantially the same assurances early in January of this year.

Losing Millions a Month

"But what was the result? Senator Cummins, chairman of the Interstate Commerce Committee, speaking in the Senate on August 5, said, 'We lost $240,000,000 last year, and we lost in the first four or five months in this year, 1919, $260,000,000 and we are now losing at the rate of $39,000,000 a month.'

"Do you really believe that under the Plumb plan you can turn this deficit under Government control either into a surplus for the account of the Government or the public or into better service for the country?

"I do not believe it can be done except by one increase after another in transportation rates.

"Permit me to make another suggestion: Since Government control was begun, the wages to the employees have been increased about $1,000,000,000. The Director-General, on July 31, 1919, informed the President that additional increases were demanded, which would aggregate, if granted, about $800,000,000 more per year.

"I have no knowledge as to whether the conditions are such as to justify this increase or not, and I express no opinion with regard to it. I want the railroad men and all laboring men to be liberally paid, whether under public or private control.

"But this is only an incident to the larger question to which I want to call your attention. If the conditions are such that this increase is justified, then I am for it. I await the proof before I shall decide it.

Should Not Insinuate Revolution

"But when your representatives come to Washington and not only ask this increase but demand that the Congress of the United States shall buy these properties at a cost to the Government of $18,000,000,000 or $20,000,000,000 and turn them over to the national railways operating corporation for management and operation, I want to say to you as one American to another, it is neither fair nor American, for them to insinuate revolution, as they have before the Interstate Commerce Committee of the House, unless their demands are granted.

"And let me suggest that the people at large have not expressed any desire for this plan, but members of your brotherhoods—I do not mean the chiefs—have been in Washington making their threats as to what would happen unless this legislation is enacted. As one Senator I shall always be open to conviction, but I never yet have yielded to a threat, and I never will.

"Of course, I know that you do not approve these methods. Law-abiding citizens, real Americans, never do approve them. It is only men of the Bolshevik type of mind that ever resort to them.

"Among the threats that have been made are threats of a nation-wide strike. I do not mean to suggest that the chiefs

Canadian Catalogues Wanted

The Public Library of New South Wales are making an effort to secure as complete a collection as possible of the latest information concerning trade, industries and manufactures of all countries, especially those included in the British Empire. They have procured from manufacturers and trading associations throughout Australia, Great Britain, United States of America and other countries, a fine collection of trade catalogues and similar publications. At present, however, Canadian manufacturers are not sufficiently well represented.

It would be well worth while for Canadian manufacturers to send their catalogues.

Address: Principal Librarian, The Public Library of New South Wales, Sydney.

of the brotherhoods have suggested a nation-wide strike, but some of the members of the brotherhoods have made these threats here in Washington to Senators. I am sure that you do not give any countenance to strikes under present conditions.

"I believe in the right of the laboring man to use the instrument of the strike under proper circumstances, but I do not believe the occasion is here or ever has been here or ever will be here which will justify a nation-wide strike, with all the distress it will bring, not only on the public at large but on the strikers and their families.

"With a general strike on in this country, tying up all the railroads, the products of the mine and the farm and the factory could not be moved to the centres of population and in one week's time the people of our great cities would be starved, and in winter frozen. The people of these centres of population include the wives, the children, and the babes of railway men as well as others. It is too shocking a situation to even contemplate.

"A sub-committee of the Interstate Commerce Committee, of which I am a member, has been engaged for a number of weeks in preparing a bill providing for the reorganization and regulation of the railroads to present to the full committee for its consideration. I hope it will appeal to the sober sense of the public. I can give no assurances as to whether it will be approved or disapproved, but of this I am convinced, that the American public never will approve the Plumb plan or anything akin to it.

"The Plumb plan is the most vicious piece of legislation that has been presented to Congress since I have been in the Senate. I would feel that I was contributing to the ruin, not only to the transportation system of the country, but to its financial and industrial breakdown, if I voted for it. It would lead not only to the ruin of the whole people, but to every railroad man as well.

"Notwithstanding the statement in your letter to the effect that this plan was unanimously adopted at a meeting of the representatives and delegates to whom it was submitted by you, I venture the assertion that when they understand it the vast majority of them will oppose it.

"Much has been said by the brotherhood chiefs and their counsel in the last few days here in Washington about the democratization of industry, and the Plumb plan is referred to as the means of democratizing transportation. A careful study of the bill will show that it is not democracy in transportation for which it provides, but autocracy in transportation.

"Mr. Plumb the other day referred to the Wall Street control of the railroads. That was true in the past. It is not true now. Wall Street has many vicious things to its credit in years gone by, but the captains of finance have never demanded $20,000,000,000 of the American people's money at one time!

"The Plumb plan out-Harrimans Harriman in his palmiest days! The public does not want to be skinned, but if it must be skinned it will make little difference whether it is by Wall Street or by the methods provided for in the proposed Plumb plan.

Toronto Branch and the Fire Marshals' Convention

By H. MACDONALD
Secretary, Toronto Branch, C.M.A.

THE Fourteenth Annual Convention of the Fire Marshals' Association of North America, an organization which now has 26 members and 29 associates, practically all of the latter having been added during the past year with a view to widening the interest in the work, assembled in Toronto on August 26th for a four-day convention. Many of the States in the Union have no Fire Marshals, but in practically all there is some officer such as a Fire Commissioner, whose duties are similar.

In Canada, Ontario has a fire marshal, while the other provinces delegate the pursuit of arson, organization of prevention work, etc., to some other officer. This was the first time the Association had met in Canada.

The C.M.A. entertained the delegates at dinner on the evening of Wednesday, August 27th, at the Scarboro Golf and Country Club, Mr. W. C. Coulter, Chairman of the Toronto Branch, presided, and extended the best wishes of the manufacturers to the visitors.

Mr. J. S. McKinnon, First Vice-President of the C.M.A., delivered a stirring address on the "Interest of the C.M.A. in the Work of Fire Prevention," giving the gathering some interesting facts about the work performed by the Association's Insurance Committee.

Mr. H. W. Fleury, Chairman of the Insurance Committee of the C.M.A., referred to Canada's record in the matter of fire losses as shameful. There was a great deal of inertia which would have to be shaken off. He hoped that by the next time the convention met in Toronto, the record would be better. Mr. Arthur Hewitt, Chairman of the Ontario Fire Prevention League—in the organization of which the C.M.A. took an active interest, gave a short review of the activities of the League and invited co-operation and support.

Mr. T. A. Fleming, President of the Fire Marshal's Association, acknowledged the hospitality of the C.M.A., stating that the present was a serious time for both sections of the American continent, but that through it all, the present good fellowship must continue.

Toronto branch was represented by Messrs. W. C. Coulter, W. H. Shapley, T. A. Hollinrake, R. L. McIntyre, and H. Macdonald, Secretary.

The Question of Conservation

is of more importance to the country to-day than ever.

Do Manufacturers Realize

the necessity of better Fire Protection? Do they realize

What Fire Prevention Means?

Fires during 1918 in Industrial Plants numbered only 486 or 5% of the total number for the year; but these 486 fires caused a loss of $7,565,322 or 48% of the total Fire Waste of the Province.

CLEANLINESS, ORDER AND FORETHOUGHT

are important factors towards reducing this preventable waste.
Manufacturers should provide better and more systematic
Inspection and Watchman Service.

More efficient fire fighting equipment---Chemical Fire Extinguishers and Automatic Sprinklers. In 15,000 fires, tabulated by the N. F. P. A., Boston, where Automatic Sprinklers were installed, 85% were put out by one Sprinkler Head.



Hangers in attractive colors, similar to this cut, may be had from your local Fire Chief

Northern Aluminum Company
Limited

Sales Office: 1305 Bank of Hamilton Bldg., Toronto

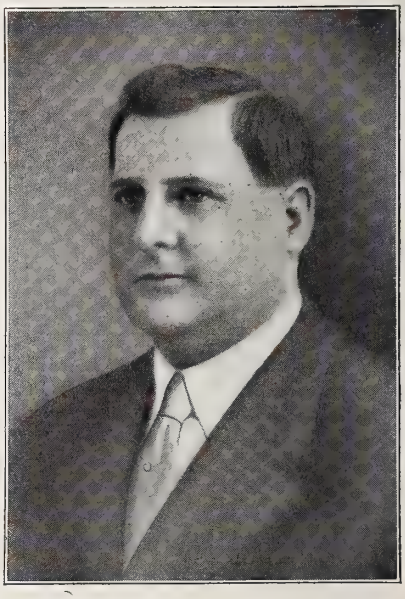
Works:
Shawinigan Falls, P.Q. Toronto, Ontario

ALUMINUM
Electrical Conductors
Sheet Ingot
Castings Rod
Tubing Special Shapes
Fabricated Articles

Send inquiries to
1305 BANK OF HAMILTON BUILDING
TORONTO

Appointed to Australia

James N. Mackin, who during the war represented E. C. Atkins & Co., Indianapolis, Ind., and Hamilton, Canada, manufacturers of the Atkins silver steel saws, in Washington, D.C., has been selected to represent the company in Australia. He is now superintendent of the entire Australian Division, with headquarters at the E. C. Atkins & Co. Branch House, 5 Australasia Chambers, Martin Place, Sydney, N. S. W., Australia. Mr. Mackin's thorough knowledge of every detail concerning saws, as well as his wide experience in selling and his pleasing personality, make him a man eminently fitted for this important position. He has many friends throughout the country who will be pleased to hear of his further success.



MAPLE LEAF VALVE OIL
CANADIAN OIL COMPANIES LIMITED

MAPLE LEAF
VALVE OIL

Saves 25 to 50% Cylinder Oil Consumption

Used with our En-ar-co atomizer (we supply it FREE), Maple Leaf Valve Oil mixes with steam and spreads in an even, thin, efficient film in valve and cylinder.

This is scientific refining combined with scientific distribution.

Cut down your oil costs from 25 to 50%. Write us today.

Canadian Oil Companies, Ltd.
1349 Excelsior Life Bldg. Toronto, Ont.

Condensed Advertising

CANADIAN AGENCIES WANTED

British Trade Representative returning to London, England, desires Canadian Agencies for the British Isles and France. Salary or commission basis. Apply C. W. James, 11 Wineva Ave.; 'phone Beach 1112.

TWO YOUNG MEN, RETURNED OFFICERS

and possessed of capital, are prepared to purchase or take an interest in a sound and profitable manufacturing or commercial business; all replies will be treated confidentially, and may be addressed to "Enquirer," care London and Canadian Loan and Agency Co., Toronto.

HARDWARE REPRESENTATIVE

Returned man who has nearly fifteen years' experience in the wholesale hardware business, eight of it spent on the road in Alberta and British Columbia, seeks position to represent Eastern manufacturer in the West. Hardware lines or engineering specialties preferred. Can furnish satisfactory references. Box 4300, INDUSTRIAL CANADA.

To Manufacturers CANADIAN MANUFACTURERS, LTD., Box 1881, Johannesburg, South Africa, wish to inform all Manufacturers they are open to negotiate for representation in South Africa. ANY LINE CAN BE HANDLED SUCCESSFULLY

DESIRABLE FACTORY FOR SALE

At Less Than One-third Replacement Value



Above L shaped building, mill construction, one wing 200′ x 65′, the other 260′ x 65′, total floor space, exclusive of basement, 120,000 sq. ft. Ceilings 12½′ high. 2 boilers 72″ x 16′, with eighty-eight 3½″ flues each; Leonard-Corliss engine 12″ diameter cylinder and 30″ stroke; Dakin feed water heater 11′ high, 42″ in diameter, 2 feed pumps, a duplex and a single; a Leonard Highspeed engine, 9″ x 12″, formerly used for lighting purposes. Factory is well constructed, in excellent repair, one block from Grand Trunk Station at Stratford, 3 blocks from City Hall, has private switch and small yard space with additional adjacent property available at reasonable figure. Splendid property with exceptional sign advertising possibilities. Price most attactive, owners desire to sell outright. Purchaser would have no difficulty in sub-letting excess floor space.

Also available, factory formerly used for war contracts, 210′ x 47′, 2 storey, mill construction with boiler and engine room 70′ x 37′, 2 storey warehouse 56′ x 30′ and 4 acres of land. A Leonard-Corliss engine 13″ x 30″, boiler with capacity 100 horse-power, electric dynamo and hot water heater. Factory is located in centre of furniture manufacturing district, has good switching facilities, price is right, and easy terms could be arranged.

Available labor includes: Skilled mechanics, skilled wood workers and ample female help; labor 99% British; 75% home owners; living conditions unsurpassed and no strikes in Stratford for 15 years. 6 lines of the Grand Trunk serve the City; shipping facilities are unexcelled; Hydro Electric Power available and water supply unlimited.

Manufacturers or wholesalers wishing further particulars and prices of the above properties are requested to communicate with Stratford Chamber of Commerce

STRATFORD - - - ONTARIO



"At Your Service"

International Time Recorder Service Men Cover Canada

See that your International Time Recorders are in good shape now

Don't let any of the precious working minutes you pay for get away from you. If you have any reason to believe your International Time Recorders need overhauling get it done now — before the season's rush — yours and ours — starts in. Our service men are thoroughly trained and you will get the best of work and attention.

International Business Machines Co., Limited

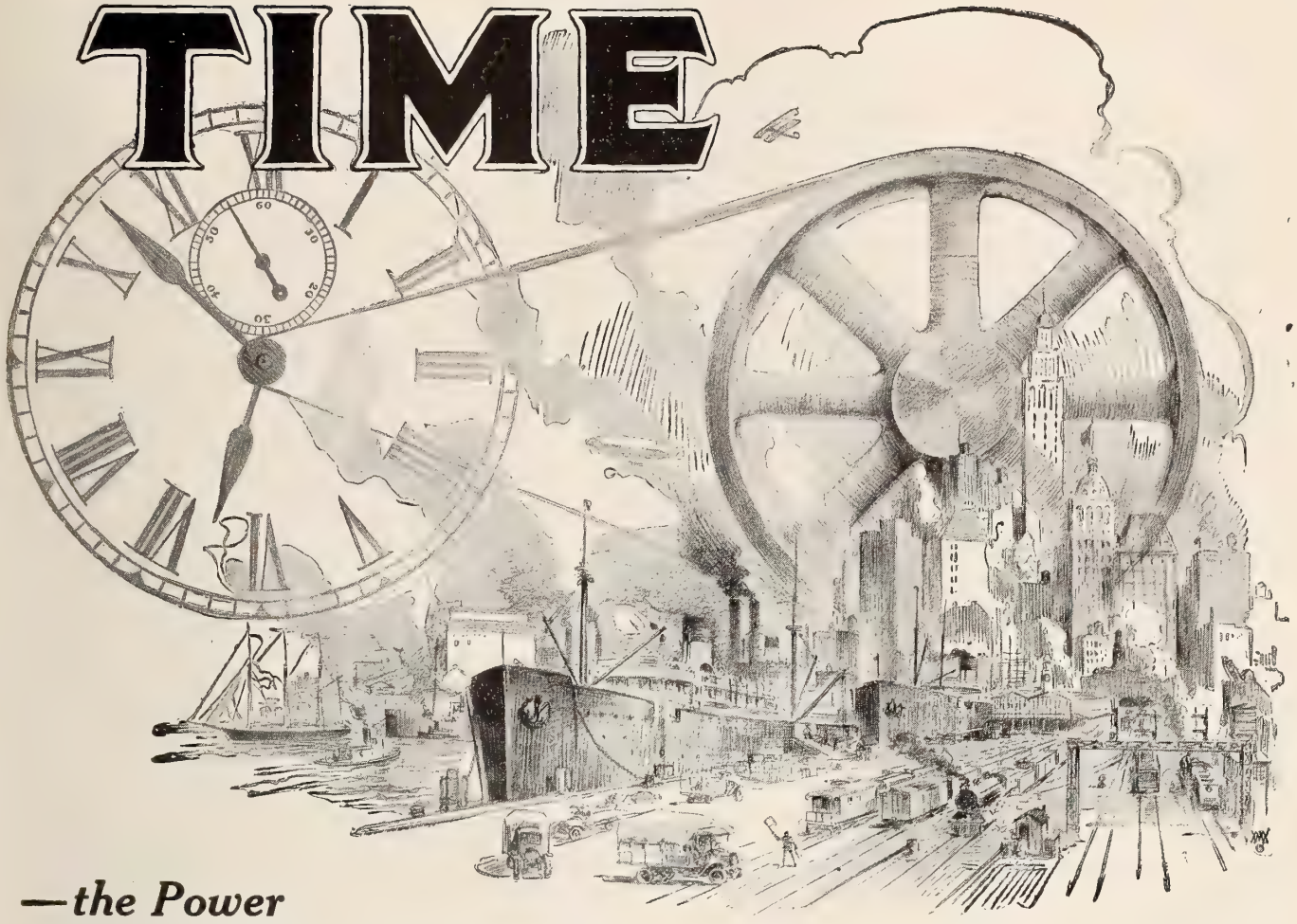
Head Office and Factory:
300 Campbell Ave., Toronto

FRANK E. MUTTON
Vice-Pres. and Gen'l Mgr.

Also at
Montreal, Winnipeg, Vancouver

(Also makers of Dayton Computing Scales and Hollerith Electric Tabulators)

TIME



—*the Power to Which the World's Work is Harnessed*

ALL the work of the world, all men, all businesses, are belted to the flying pulley of Time—some snugly and efficiently, others loosely and wastefully.

Snug belts drive. Loose ones slip. The moral is obvious—*see that YOUR time belt is tight!*

To take up the slack, to cut waste out of working hours, systematize your business with

International Time Recorders

Internationals make every minute count; put workers on their mettle; discourage small time losses and thus prevent big ones.

They enable the worker to *keep his own time* with mechanical accuracy, and give him a new sense of responsibility. It becomes a matter of pride to have his International card stamped for full time; and a matter of business also, for with Internationals *every minute* of service rendered will show in his pay envelope. Internationals are sure.

The simple and complete manner in which Internationals record the data needed for payroll accounting greatly reduces clerk hire. Two or three clerks will accomplish with Internationals the work that would require half a dozen clerks by any of the manually-controlled systems;

—and besides, the *International records will be right.*

Yes—we make the model you need. There are 260 International types, either electrically operated or spring-driven, and adapted to every line of business. ***Write us.***

International Business Machines Co., Limited

Head Office and Factory:
300 Campbell Ave., Toronto

FRANK E. MUTTON
Vice-Pres. and Gen'l Mgr.

Also at
Montreal, Winnipeg, Vancouver

(Also makers of Dayton Computing Scales and Hollerith Electric Tabulators)



International Automatic Card Recorder



Organization Depends on You

Your filing clerk is not responsible for the way your filing system works; it's not her fault if it's *fundamentally* wrong. And you certainly can't blame her if she holds you up for that "wanted-in-a-hurry" paper—to close some important point in a discussion—to get some needed information.

You're responsible for the proper organization of your office, and everything that's in it—including your filing system.

This is the case in your factory; every operation is planned for your men; shop practices are standardized; all the thinking is done in advance—to save time, delays and clogged wheels.

The only difference between factory and office routine is one of function—*for efficiency both depend on organization*.

So your clerks are only responsible for carrying out the details of filing. And if your filing system isn't fundamentally right—in other words if it won't yield up the paper you want when you want it—is it really fair to put the blame on your filing clerk?

The "Office Specialty" Direct Name System of filing correspondence is a steel-trap, error-proof system of filing. Your filing clerk can't go wrong. Everything's worked out to act automatically—it's organization based on simple, fundamental principles.

Hundreds of business men in every kind of business have found this system the end to their "filing-and-finding-of papers" problems. The same benefit it has brought to them is offered to you—and backed by time, labor and money saving proof.

If this "getting-papers-when-you-want-them" question is bothering you, get in touch to-day with our nearest Filing Equipment Store and let one of our service men demonstrate its particular benefits to you. Or if you want a little more information about it before doing anything write to the nearest store for descriptive folder No. 1862.

THE OFFICE SPECIALTY MFG. CO., **LIMITED**
Home Office NEWMARKET Canada

Filing Equipment Stores at:

Toronto Montreal Ottawa Halifax Hamilton Winnipeg Regina Edmonton Vancouver

OFFICE SPECIALTY
LABOR SAVING OFFICE DEVICES
"Y and E"
TIME IS MONEY
FILING SYSTEMS

303

OFFICE AND FINANCE

Some Aspects of Foreign Exchange

By GEORGE E. ROBERTS
Vice-President, National City Bank of New York

(From the "Nation's Business")

FOREIGN exchange has always been considered a subject of great obscurity to the layman, and in fact it has many complexities, but the main principles are simple enough.

If a country imports more than it exports, evidently it must settle the difference. The methods of settlement are substantially the same as in case of an individual who buys more than he sells, to wit: by payment of cash, a use of credit which postpones payment, or by the transfer of securities representing property of some kind.

In normal times trade naturally keeps fairly well in balance, a country's outgoing products approximately settling for the products and services which it obtains of others. We see this principle illustrated within our own country in the relations of particular sections to the whole country. The products of a state flow out to the general markets and settle for the goods which that state buys outside, and for various services, such as transportation, insurance, loans, etc. In some cases, as when a state's production is mainly of one crop, the payments will run heavily one way at one season of the year, when the state will accumulate either cash in its own banks or credit balances in the banks of financial centres outside; and then during the remainder of the year the payments will run adversely, compelling shipments of cash or a drawing down of outside balances, and possibly the negotiation of loans outside.

When Crop Failures Occur

If there should be a crop failure, cutting off the flow of products one way, the situation will be thrown seriously out of balance. In this event the state or locality will be obliged to use its credit to a greater extent than usual. The merchants will ask for credit where they are accustomed to buy, the local banks will borrow of their correspondent banks in the financial centres, real estate loans will be negotiated, collateral will be pledged, and securities will be sold, all for the purpose of tiding the community over an adverse trade balance.

Settlements between different sections of this country are now made largely through the Federal Reserve banks, and the system illustrates the usual process of settlements between countries. Drafts, checks, etc., representing claims for cash received within a given reserve district, first find their way to the reserve bank of that district; the reserve banks send them direct to each other, but report their claims on each other by wire daily to a clearing house maintained in Washington, where they are offset against each other. This clearing house keeps a book account with each reserve bank, crediting it with balances in its favor and debiting adverse balances. It has in its custody a stock of gold, amounting at this writing to about $524,000,000, deposited by the reserve banks for the purpose of covering the balances which may arise against them.

Originally, these deposits were actually segregated, and weekly settlements were made by the physical transfer of metal to balance the accounts, but of late the gold is all kept together, like the ordinary deposits of a bank and settlements are made simply by debit and credit entries. The efficacy of the system, however, depends finally on the authority which the Federal Reserve Board exercises to require the creditor banks to re-discount paper for the debtor banks whenever the latter's share of the gold fund runs low. The parity of domestic exchange is thus sustained at last by grants of credit between the Federal Reserve banks. The whole system is based upon the theory that in the long run the transactions will balance each other.

But What of Foreign Barter?

Arguing from the successful operation of this clearing system with its gold settlement fund, an international clearing system and gold settlement fund have been suggested. It would work all right, undoubtedly, so long as every country kept up a deposit of gold sufficient to cover its adverse balances, but when any country failed to do this the exchanges on it would slump, unless the creditor countries would come forward with loans.

It is obvious that there is more difficulty about managing an unbalanced situation in the international exchanges than in the domestic exchanges. Between different sections of the same country the money is the same, banking system the same, investments are mutually familiar, and all business relations are so close as to establish confidence and credit. Between this country and England the conditions have been quite favorable in the past because England has been a large investor in American securities, and had a familiarity with them which made it easy to pass large amounts of them back and forth in the balancing of trade differences. We, however, have never invested much in British securities, and comparatively few people in this country have any knowledge of them. Therefore, now that there is a heavy trade balance in our favor in our dealings with England, we are not as well prepared to handle the situation as England was when the balances ran the other way.

The Supremacy of London

London's long career as the clearing centre of the world's trade has been due to several important conditions:

Her maritime supremacy, with shipping lines communicating directly with all parts of the world.

Her capital investments in all parts of the world, creating credits for her everywhere, making London a world market for securities and familiarizing her bankers with credits everywhere.

The great free trading market for commodities of every kind, making it always possible to sell any kind of products there at a good price.

The free gold market, making a draft on London a preferred means of payment anywhere in the world.

Fluctuations in exchange rates are caused by the fluctuating state of trade. If trade is in balance, there is no factor in exchange rates but the simplest of banking service.

BANK OF MONTREAL

Established over 100 Years

Capital Paid Up - - $20,000,000
Rest - - - $20,000,000
Undivided Profits, $1,661,614
Total Assets - $489,271,197

BOARD OF DIRECTORS:

Sir Vincent Meredith, Bart., President
Sir Charles Gordon, G.B.E., Vice-President
R. B. Angus, Esq. Lt.-Col. Molson, M.C.
Lord Shaughnessy K.C.V.O. Harold Kennedy, Esq.
C. R. Hosmer, Esq. H. W. Beauclerk, Esq.
H. R. Drummond, Esq. G. B. Fraser, Esq.
D. Forbes Angus, Esq. Colonel Henry Cockshutt
Wm. McMaster, Esq. J. H. Ashdown, Esq.
E. W. Beatty, Esq., K.C.

Head Office: MONTREAL

Sir Frederick Williams-Taylor, General Manager

Branches and Agencies — Throughout Canada and Newfoundland At London, England, and at Mexico City In Paris, Bank of Montreal, (France) In the United States - New York, Chicago, Spokane. San Francisco - British American Bank (owned and controlled by Bank of Montreal).

A GENERAL BANKING BUSINESS TRANSACTED

ESTABLISHED 1875

IMPERIAL BANK
OF CANADA

CAPITAL PAID UP $7,000,000 RESERVE FUND $7,500,000

PELEG HOWLAND, President

The Bank offers a service of the highest order to Canadian manufacturers because of its 152 Branches located in important industrial and agricultural centres throughout Canada.

COLLECTIONS made at all points in Canada and in foreign centres.

DRAFTS—Money Orders and Letters of Credit issued, available throughout the world.

EXCHANGE—Domestic and Foreign Exchange bought and sold.

SAVINGS received at all Branches—interest credited half yearly at current rate.

Accounts of Merchants and Manufacturers solicited.

HEAD OFFICE - TORONTO

It is merely book-keeping, the drafts drawn between countries cancelling each other in the accounts. But as soon as trade begins to get one-sided a new service is required and somebody must be paid for rendering it. A credit must be created by other means. If the balances are small and temporary or seasonal, the bankers of the debtor country will readily handle them. They first will draw down their foreign balances, and perhaps borrow to replenish them, and so far exchange charges will be light. If the adverse balances increase, exchange rates will rise and gold will begin to flow out. This gold will come out of bank reserves, and its loss will compel the banks to contract their loans. To hold the movement in check they raise the exchange charges, which become a serious tax on importation and tend to restore the equilibrium.

Changed Position of U.S.

The war has wrought a great change in the position of the United States in the exchanges. During the ten years preceding it the average annual trade balance in favor of the United States was approximately $500,000,000, and it was practically offset by interest and dividends paid to foreign holders of American bonds and stocks, charges of foreign shipping upon our imports, expenditures of American tourists abroad, remittances of foreign-born residents to the old countries, and other items for which we were indebted to Europe. Now we have bought back most of our securities and made loans to Europe upon which the interest coming to us will be $500,000,000 to $600,000,000 per year, with more in prospect.

This change from a debtor to a creditor position is certainly to our advantage, but the effects are very perplexing to some people, because they are not favorable to our export trade. Formerly we had to export about $500,000,000 per year to pay our accruing obligations. Europe simply gave us credit on the books; now she must send us something for it. She cannot pay us in gold, for the total annual production of gold in the world is not equal to that sum. She can pay us temporarily in securities, if we will take them, but of course that will increase the annnual balance in our favor.

How Can Our Customers Pay?

The normal tendency in trade is to find a state of equilibrium, but during the war this equilibrium has been violently disturbed, and the United States has run up enormous balances against Europe. These have been settled, first by the return of millions of securities, then by payments aggregating a billion dollars in gold, then by the borrowings of foreign governments of the United States Government and in the open market, aggregating $12,000,000,000. The net trade balance in favor of the United States against the rest of the world in the fiscal year just closed was a little above $3,700,000,000.

The moment we cease to grant credit to purchasers, exchange rates will rise rapidly against us. They have done so already. The pound sterling, worth in gold $4.86, is today worth less than $4.50, a discount of about 7 per cent.; the franc is at a discount of 40 per cent. as compared with the American dollar, and Italian exchange still lower. The effect of this is that residents of these countries in making purchases of American products must pay corresponding premiums to convert their money into American drafts. Even a resident of Canada must pay $103 to liquidate a debt of $100 in the United States.

In normal times trade cannot continue under such a handicap as this. Moreover, this discount on foreign currencies in relation to the dollar not only handicaps our exports but promotes the importation of foreign goods into this

country, because the American dollar has high purchasing power everywhere.

American business men must face this situation intelligently. They have been thinking only of selling more abroad. They will have to give up that ambition or recognize that in order to do so they must also take more of foreign products.

He is a poor merchant who never considers how his customers are going to pay for the goods he hopes to sell. It is well to understand while Congressional committees are making a search with a view to stopping up every crevice through which foreign goods percolate into this country that the effect of stopping them must be to also stop the outward flow of American goods.

Making Up Annual Statements

Greater Clearness and More Detail Should Feature Reports of Industrial Companies

(From Montreal "Journal of Commerce")

A legend circulates around St. James Street that once upon a time complaint was made to a prominent business man concerning the unusually scanty character of the information to shareholders published in the annual report of the corporation of which he was the head. "Well," replied the prominent business man, "what right have shareholders got to information anyway?"

This "public be damned" attitude is not exactly typical. But an extensive acquaintance with the financial statements issued by Canadian corporations to their shareholders, and published in the newspapers, suggests that the investor who buys the stock of these corporations in the open market has to make very much of a venture of faith, unless trade connections or technical knowledge give him the capacity to judge the real value of a particular stock, actual and prospective. In sober fact, the financial statements published by many limited liability companies are by no means intelligible to the great majority of shareholders or prospective investors, and in some cases there is an apparent intention to disclose as little information as possible.

Financial Statements Lack Detail

In part, at least, this condition of affairs is due to the well-known fact that many people, thoroughly successful in their own line of business activity, are children in business matters outside their own particular field. Unfamiliarity with accounting jargon, and incapacity to view financial statements intelligibly, are frequently enough found among those who may be to a certain extent accurately described as successful men of business. This lack of financial education accounts to a considerable extent, possibly, for the bonfires of rubbish frequently found to be necessary on the winding-up of even large estates.

On the other hand, an investor may be a past master in the mysteries of accountancy, but what is he to make of an entry like this—the sort of entry which appears in the financial statements of too many Canadian corporations:—

"Real estate, buildings, machinery and goodwill, $5,000,000."

This impressive looking entry tells the shareholder or prospective investor, in fact, nothing. Goodwill, that familiar and elusive asset, may be a small or a large proportion of the $5,000,000. Land, buildings and machinery may represent half a million dollars of the total, or two million dollars, or $4,999,999. Real estate may be taken in at a high valuation, or at one much below its real market value. Buildings

THE ROYAL BANK OF CANADA

Capital Paid Up	$14,000,000
Reserve and Undivided Profits	15,500,000
Total Assets	427,000,000

HEAD OFFICE - MONTREAL

BOARD OF DIRECTORS:

Sir Herbert S. HOLT, Pres. E. L. PEASE, Vice-Pres.
E. F. B. JOHNSTON, K.C., 2nd Vice-Pres.

Jas. Redmond	C. S. Wilcox
G. R. Crowe	A. E. Dyment
D. K. Elliott	C. E. Neill
Hon. W. H. Thorne	Sir Mortimer B. Davis
Hugh Paton	G. H. Duggan
Wm. Robertson	John T. Ross
A. J. Brown, K.C.	R. MacD. Paterson
W. J. Sheppard	W. H. McWilliams

OFFICERS

E. L. Pease, Man. Director, C. E. Neill, Gen. Manager; F. J. Sherman, Asst. Gen.-Manager; M. W. Wilson, Supt. of Branches.

Branches in every Province of the Dominion of Canada and in **Newfoundland**; in **Havana** and throughout **Cuba**, Porto Rico, Dominican Republic, Costa Rica, and Venezuela; **Antigua**, St. John's; **Bahamas**, Nassau; **Barbados**, Bridgetown, **Dominica**, Roseau; **Grenada**, St. George's; **Jamaica**, Kingston; **Montserrat**, Plymouth; **Nevis**, Charlestown; **St. Kitt's**, Basseterre; **Trinidad**, Port of Spain and San Fernando; **British Guiana**, Georgetown, New Amsterdam and Rose Hall (Corentyne); **British Honduras**, Belize.

SPAIN, Barcelona—Plaza de Cataluna 6.
LONDON, England, OFFICE—Princes St., E.C.
NEW YORK AGENCY—Cor. William and Cedar Sts.
(Savings Department at all Branches)

VALUABLE PAPERS

The Safety Deposit Boxes of this Bank offer security for valuable papers, documents and other effects.

The rental of one of these boxes is very moderate and protects you against loss by fire or theft.

THE CANADIAN BANK OF COMMERCE

Wages drop when help becomes plentiful but the individual cost of training new employees remains the same. Ask us how to reduce your labor turnover and increase your profits

Thorne, Mulholland, Howson & McPherson

INDUSTRIAL ADVISORS

Bank of Hamilton Building Toronto, Ont.

RIORDON SALES COMPANY, LIMITED

MONTREAL

Offer for Sale

Sulphite Fibre Wood Pulp

BLEACHED AND UNBLEACHED

FOR PAPER MILLS

IMPERVIOUS SPRUCE SHEATHING

Lumber

SPRUCE, HEMLOCK AND PINE, CEDAR RAILWAY TIES AND SHINGLES, SPRUCE CLAPBOARDS.

SALES MANAGERS

T. J. STEVENSON GEO. E. CHALLES

THE BROWN BROTHERS LIMITED

Simcoe and Pearl Sts. TORONTO



MANUFACTURERS OF

ACCOUNT BOOKS, LOOSE LEAF LEDGERS

Binders and Specialties

LEATHER GOODS—DIARIES—STATIONERY

Printers' and Bookbinders' Supplies

Established 1849

BRADSTREET'S

Capital and Surplus - - $1,500,000

Offices Throughout the Civilized World

Executive Offices: Nos. 346 and 348 BROADWAY, N.Y. CITY, U.S.A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying, and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world. Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary, and business corporations. Specific terms may be obtained by addressing the Company at any of its offices. Correspondence invited.

OFFICES IN CANADA

Edmonton, Alta. Hamilton, Ont. London, Ont.
Halifax, N.S. Ottawa, Ont. Quebec, Que.
Montreal, Que. Toronto, Ont. Vancouver, B.C.
St. John, N.B. Winnipeg, Man. Calgary, Alta. Victoria, B.C. Sydney, N.S.

THOS. C. IRVING, Gen. Man. Western Canada, Toronto

EXPORTERS OF

Reed Organs, Piano Stools, Music Cabinets.

Catalogue B.

The Goderich Organ Co. Limited

GODERICH, CANADA

Closet Seats, Flush Tanks, Medicine Cabinets,

Everything for the Bathroom.

Write for Catalogue C and Price List.

and machinery may or may not be at a properly depreciated valuation. A compensating entry of "Depreciation Reserves" among liabilities may give the reader of the statement some inkling on this point, but no real information regarding the actual depreciated value of the company's assets. Frequently enough, too, that compensating entry is missing, depreciation, where it was written off at all, having been written off direct to profit and loss or surplus. In such case, it would be necessary to hunt up the financial statements of the concern for years past to obtain even a vague idea of what had been done in this connection.

Hopeless Search for Information

In any event, unless the value of the company's fixed assets is clearly and distinctly set forth in the balance sheet, an entry of "Depreciation Reserve" among liabilities or an allocation in the profit and loss account to that reserve, tells the shareholder or prospective investor nothing unless the basis of these depreciation allowances is also set out. The depreciation reserve may be hopelessly inadequate in view of the character of the assets, or largely excessive, so concealing profits and establishing a secret reserve, or merely normal. And when, as is sometimes known, the allocation to depreciation is joined up with repairs, taxes, pension fund, or half a dozen other items, in one preposterous total, the search for information on this point becomes utterly hopeless.

There is another entry among assets of a pretty common sort, which at the present time when many raw materials used in manufacturing processes have reached their zenith, and are at the beginning of a period of declining prices, is of much importance: "Inventories at cost or under." This may mean the greater part of the inventory at cost, with a merely nominal allowance for old or depreciated stock, or it may mean a substantial writing down from cost in anticipation of falling markets. Has the inventory basis been changed in comparison with the preceding year? Changes in the basis of inventories taken at the beginning and end of a company's financial year can make a considerable difference in apparent profits.

What Are "Net Profits?"

In regard to what constitutes profits, particularly "net profits," there is a vast divergence of practice, which cannot but be mystifying to the ordinary shareholder. It is a common practice to state the amount of "net profits" before taking into consideration interest on bonds, depreciation, etc., although it should be apparent that real "net profits" can only be arrived at after these charges have been met. A measure of uniformity in accounting practice in this matter is strongly desirable in the interests of shareholders and investors. Some degree of camouflage in corporation financial statements has also been seen of recent years in connection with the Business Profits War Tax. Quite a number of large corporations have refrained from disclosing to their shareholders in the published annual statements the amount of this taxation for which these corporations have been assessed. The tax has been lumped with other items, though it might be supposed that the actual extent of the burden imposed by what is admittedly very heavy special taxation would be a matter on which shareholders are reasonably entitled to clear and accurate information.

No doubt, in recent years, action by members of the accountancy profession, who have taken a public-spirited view of their duties and obligations, has improved considerably the general level of corporation financial statements in Canada. It is to be expected also that in the next revision of the Dominion Companies' Act, further legislative provisions will be put into force for the safeguarding of investors by the publication of

The Merchants Bank of Canada

Head Office, MONTREAL **Established 1864**

Paid-up Capital	$ 7,000,000
Reserve Funds	7,574,043
Total Deposits (July 31st, 1919)	150.000.000
Total Assets (July 31st, 1919)	181.000.000

President: Sir H. Montagu Allan, C.V.O
Vice-President: K. W. Blackwell
General Manager: D. C. Macarow
Supt. of Branches and Chief Inspector: T. E. Merrett

AN ALLIANCE FOR LIFE

Many of the large Corporations and Business houses who bank exclusively with this institution have done so since their beginning. Their banking connection is for life—yet the only bonds that bind them to this bank are the ties of service, progressiveness, promptness and sound advice.

333 Branches in Canada Extending from the Atlantic to the Pacific

Service for Canadian Importers and Exporters

Coupled with an impressive expansion of our system in Canada is an important development abroad.

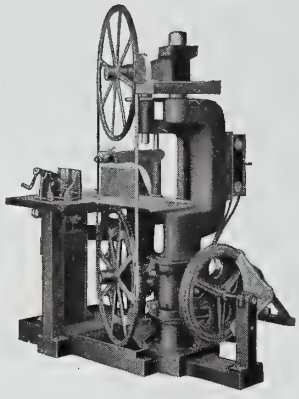
Our branches in London, New York City, Montreal, Toronto and Winnipeg are equipped with Foreign Exchange Departments and are prepared to finance and advise Canadian exporters and importers.

Our direct connection with the Park-Union Foreign Banking Corporation enables us to serve efficiently all who would finance international transactions.

UNION BANK OF CANADA

HEAD OFFICE: WINNIPEG

Resources - $153,000,000



ATKINS
No. 3
Metal Band Saw Machine

The most modern and improved machine for metal cutting. Produced after years of scientific study as to the efficiency of cutting all sizes and classes of metals up to 12x14 inches. Atkins many exclusive features save you time, labor and money. Ask for free descriptive booklet.

E. C. ATKINS & CO., INC.
"THE STERLING QUALITY SAW PEOPLE"
ESTABLISHED 1857
Canadian Factory: Hamilton, Ont.
Canadian Branch: Vancouver, B.C.

Your Opportunity for More Business in Montreal

Two young men will shortly open an office in Montreal to represent a limited number of Manufacturers.

They are both young, energetic, have splendid connections, have seen service overseas and have had fifteen years experience in selling, advertising and administration.

Special service features are offered to take care of your present business in Montreal, and splendid opportunity to get new business opened up.

Not more than one firm in any one line considered. The terms WILL interest you.

For full information address

P. O. Box 24, Station D
MONTREAL

full information in both prospectuses and financial statements. A desirable supplement to legislative enforcement in this connection would be a recognition by corporation executives generally of the rights in this matter of shareholders as real partners in the business, although limited partners, and realization that much information of importance to shareholders and investors can be given, without touching in the least upon office secrets that might be useful to hungry competitors. The examples already quoted, which could be multiplied in respect of many other balance sheet items, show this clearly enough.

Need Educating on Financial Matters

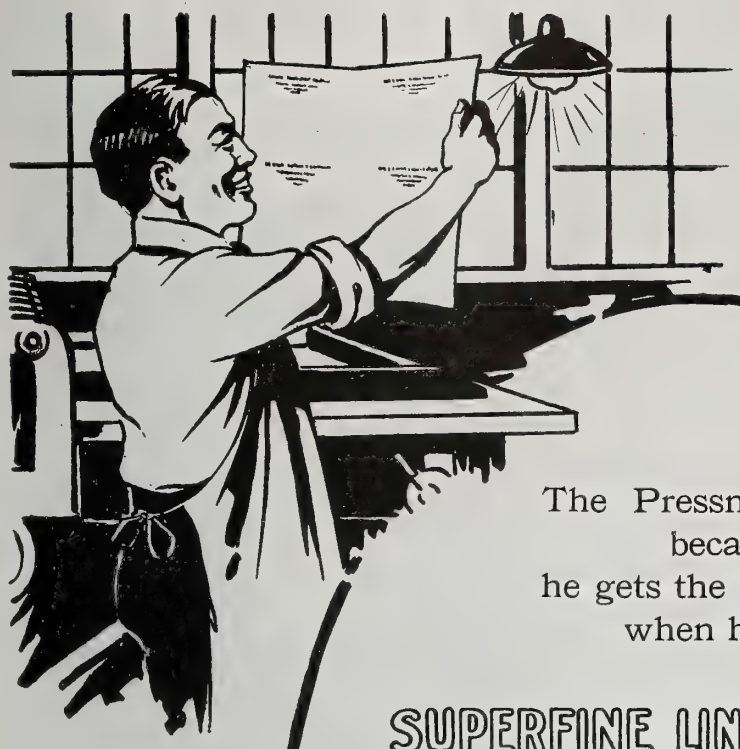
In this matter, it seems that corporative executives and financiers need to realize that they have a duty not merely to their shareholders and to investors, but to the country as a whole. Those engaged in the workings of Canadian finance are aware that at the present time, Canadians are taking a greater interest in the business of investment than ever before—and that in spite of the high cost of living. The originating cause of this interest is undoubtedly the wide distribution of the various War Loans, as a result of which many people have in the last year or two received, for the first time in their lives, incomes earned while they slept. That of the thousands who have shared this experience a considerable number are keen to increase that income is clear enough from the steady demand for sound investments which is reported by many financial houses. Moreover, the future of Canada, from the purely economic point of view, depends not merely on the capacity and willingness of Canadians to save, but upon their ability to employ those savings wisely in safe and productive investments. To have savings made through real effort, thrown away in foolish or dishonest ventures, will be in the coming years of onerous national financial burdens, not merely a tragedy for the individual, but a severe hindrance to the economic progress of the whole Dominion.

The education of the general public in matters of investment, the curbing of the deeply rooted human intinct to take the wildest of wild chances, will be necessarily a terribly long process. But something at least can be done in the stimulation of a healthy interest and common-sense in financial matters, through the securing of greater clearness in corporation financial statements. On that account, if for no other reason, it appears urgently desirable that the too-common practice of giving shareholders and investors a minimum of information regarding the industrial undertakings in which they are interested needs modification. Obviously those most intimately concerned with Canadian industry and finance would themselves benefit by the growth of Canadian investors, not merely in numbers, but in intelligence, while the ultimate advantages accruing to the Dominion as a whole through an increasingly intelligent use of our accumulated financial reserves, need no emphasis.

Profits Were Lower

American Cyanamid Company Reports Smaller Returns for Past Year

The American Cyanamid Company, which operates a chemical plant at Niagara Falls, Ont., besides plants in the United States, showed net profits on sales of $1,573,041 for the year ended June 30, 1919, this comparing with $2,345,235 for the preceding year. The president, Frank S. Washburn, reports the operation of the plant at Niagara Falls at full capacity for the entire year. Progress is being made in the transition from war to peace conditions.



The Pressman Smiles
because
he gets the best results
when he uses

SUPERFINE LINEN RECORD

You too will be proud of your stationery lithographed or printed on it.

And don't forget, the recipient of your letter is pleased because you send your letter to him "well dressed." No business man likes a slovenly salesman—neither does he like a "down-at-the-heel" letterhead.

A folder showing a sample of Superfine Linen Record with some excellent examples of letterheads gladly sent on request.

Grand Prix Paris 1900

Your stationer can supply you with Superfine Linen Record in Notepaper and Envelopes and in writing tablets for private use.



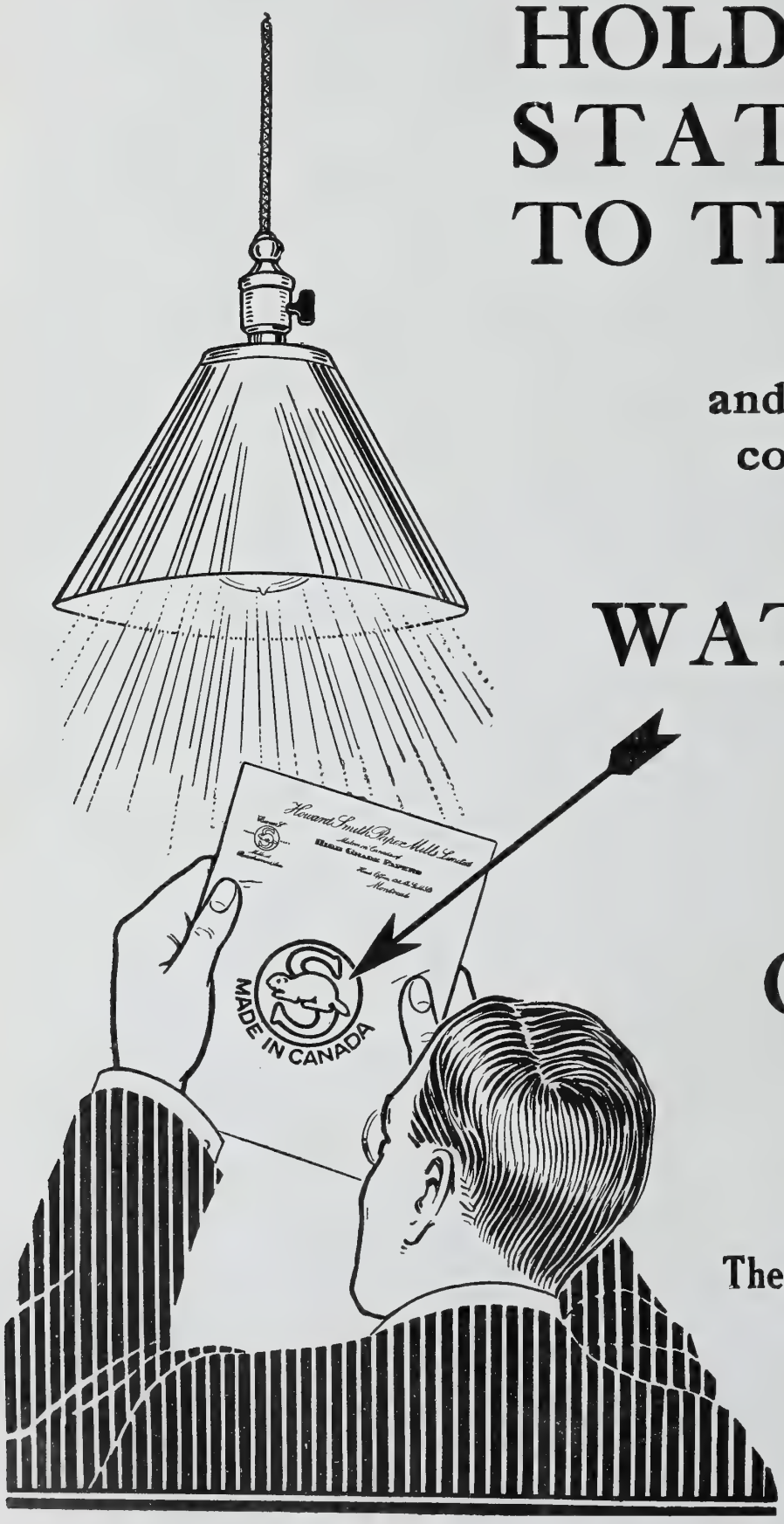
The "R Shield" Watermark appears in these standard Rolland Papers:

Superfine Linen Record
Earnscliffe Linen Bond
Empire Linen Bond
Colonial Bond
Mount Royal Bond



Made in Canada by
The Rolland Paper Co.
Limited
Montreal

HOLD UP YOUR STATIONERY TO THE LIGHT



and see that it contains this

WATERMARK

It is your guarantee for

QUALITY

-Made-in-Canada—

BY

The Howard Smith Paper Mills
LIMITED

138 McGill St., MONTREAL

MILLS AT
BEAUHARNOIS, QUE. and
CRABTREE MILLS, QUE.

DEPENDABLE SERVICE

JOINT GLUE



VENEER GLUE

ALWAYS UNIFORM
Samples and Prices on Request

DELANY & PETTIT, LIMITED
TORONTO

HIGH GRADE COATED PAPER

For the Best Results in Fine Screen Half-Tone and Color Work, use

"Red Seal" Coated Book

"Luxacoted Porcelain" Coated Book

TRADE 

MARK
REGISTERED

Made by

RITCHIE & RAMSAY LIMITED, TORONTO
CANADA

Western Selling Agents :
JOHN MARTIN PAPER CO., LTD., Winnipeg and Calgary

ONE MORE MEMBER
OF OUR PAPER FAMILY

FORTRESS BOND



(FACSIMILE OF WATERMARK)

A good, sturdy paper, as its name implies. Not expensive, but one that will wear well. Beautifully finished, with a nice and pleasing crispness. Something that will show off your type matter to the best advantage. We know your acquaintance with this paper will ripen into friendship of long standing.

ENVELOPES TO MATCH

Your printer will be glad to
show you samples

Barber-Ellis Limited

71 Wellington Street West

ENVELOPE MANUFACTURERS AND PAPER DEALERS

Toronto Brantford Winnipeg Calgary Vancouver

Good Things from Other Magazines

Industrial Production in Relation to Wages

The amount of a wage is not an absolute but a relative fact. It seems almost incomprehensible that a man should be fired for suggesting a better way to work, yet in two-thirds of the manufacturing concerns of the United States such a suggestion will be resented. Wages are high when they do not result in production; they are low if they give production

By SAMUEL CROWTHER

(From the "World's Work")

The curious part of it all is that in most discussions of wages, what the man does for a wage is seldom considered, while page after page of testimony is taken as to how much it costs to live, although it must be self evident that as long as we work under a wage system, if production be not returned for wages, then a living wage can never exist. Inevitably a wage paid which is not wholly earned must be added into the price of the finished product and eventually raise the price of all products, so that when the wage earner goes to buy he is bound to find his money insufficient.

Two glaring examples of this are England and Germany to-day. In both countries great numbers of people are getting unemployment allowances. They are getting paid for doing nothing, while those who are at work are giving but little in return for their wages. The consequence is that the price of all commodities is so high that although the workers are receiving unheard of sums they are not able to live as well, in most cases, as they did before the war.

If a man should buy a tract of land and then instead of plowing and sowing, he should merely sit on his porch and contemplate, he would get scant sympathy if he said that his income from the farm was wholly insufficient to support life decently. Yet that is exactly what millions of workers are doing to-day and they are asking for government aid because of the straits in which they find themselves—because they will neither plow nor plant.

Ignorance not a Class Trait

There are two sides to this. Some workers are willing to plow and plant, but they think that the owner of the field takes more than is coming to him—that is, the employer is getting too much and they are getting too little. There are employers just as unintelligent as the workmen, who think that they too can get something for nothing—that they can get production without using brain power in the movement of their capital, in the planning of the work, and in the adequate paying of their men. Ignorance is not a class trait and, comparatively speaking, there are just as many employers who do not know how to do their work as there are workmen who do not know how to do theirs. That is one of the reasons that we are having so much trouble about wages.

Spurred on by the cost of living and not a little convinced that perhaps after all something can really be had for nothing, the wage earner has taken the bit in his teeth and is off at a gallop. It remains to be seen whether he will tire himself out before he spills the milk wagon.

The trade unionists, headed by Mr. Gompers, say after the manner of oracles, that wages must stay up. A few impolitic owners say that wages must come down and at once, but whenever an organization attempts to reduce wages it has a strike.

The workers and the employers alike talk about wages as though they were definite payments quite detached from mundane affairs and as though a dollar yesterday were the same as a dollar to-day and a dollar to-morrow—that there is some particular sanctity attached to the payments they made, say back in 1913 or 1914. Both sides quite forget that, since the beginning of time, the average worker has considered his wage too low, and the average employer has considered that same wage too high. Neither side talks of production and its relation to wages, but they agree that a dollar is a specific thing and, for the purpose of wage argument, they are very apt to take it as a standard of fixed value. The employer forgets that the dollar a day man disappeared long before the dollar watch went off the market and that we to-day are dealing in a different sort of currency. A moving picture producer who is thoroughly acquainted with the country, said to me most significantly not long since:

When Wages are High

"We used to reckon the nickel as the multiple of value for admission, but now it is the dime. It is foolish to raise an admission fee only five cents. We have made many experiments and we know that the man who formerly had a ten cent show has just as big an audience if he goes to twenty cents as if he goes to fifteen."

Whether wages will stay up or come down does not depend upon the employers, or upon Mr. Gompers, or upon any other group in the world. The particular number of counters used is not of the slightest importance anyway. Wages are too high when they do not give production. They are too low not when they do not support life, but when the return to the employer is higher than it should be. This is a very indefinite statement, but the whole matter of wages is indefinite because it gets down to particular cases, and the balance between labor and capital is not a thing which can be decided except in the crudest manner by national boards, for it is largely a matter of individual brains. Nationally fixed wages promote sloppy production and inevitably raise prices.

There is no particular reason why there should be a limit to wages, unless we are prepared to say there is a limit to skill and intelligence. That skill and intelligence are as much the business of the employer as they are of the worker. When an employer says he cannot pay more than five dollars a day in his business he really says in effect, "I have reached my limit of intelligence in the conduct of this business and I do not know how farther to improve the process of fabrication."

Take a case in point. A factory making automobile parts in Cleveland was swamped with orders. It had risen through a somewhat hazardous career, having been originally financed on about half a shoe string, and like so many firms connected

MADE IN
PREMIER
CANADA
GALVANIZED SHEETS

FRIENDSHIP

is one thing----but 5% U.S. exchange is "something else again, Mawruss"

Fewer trips to

NEW YORK

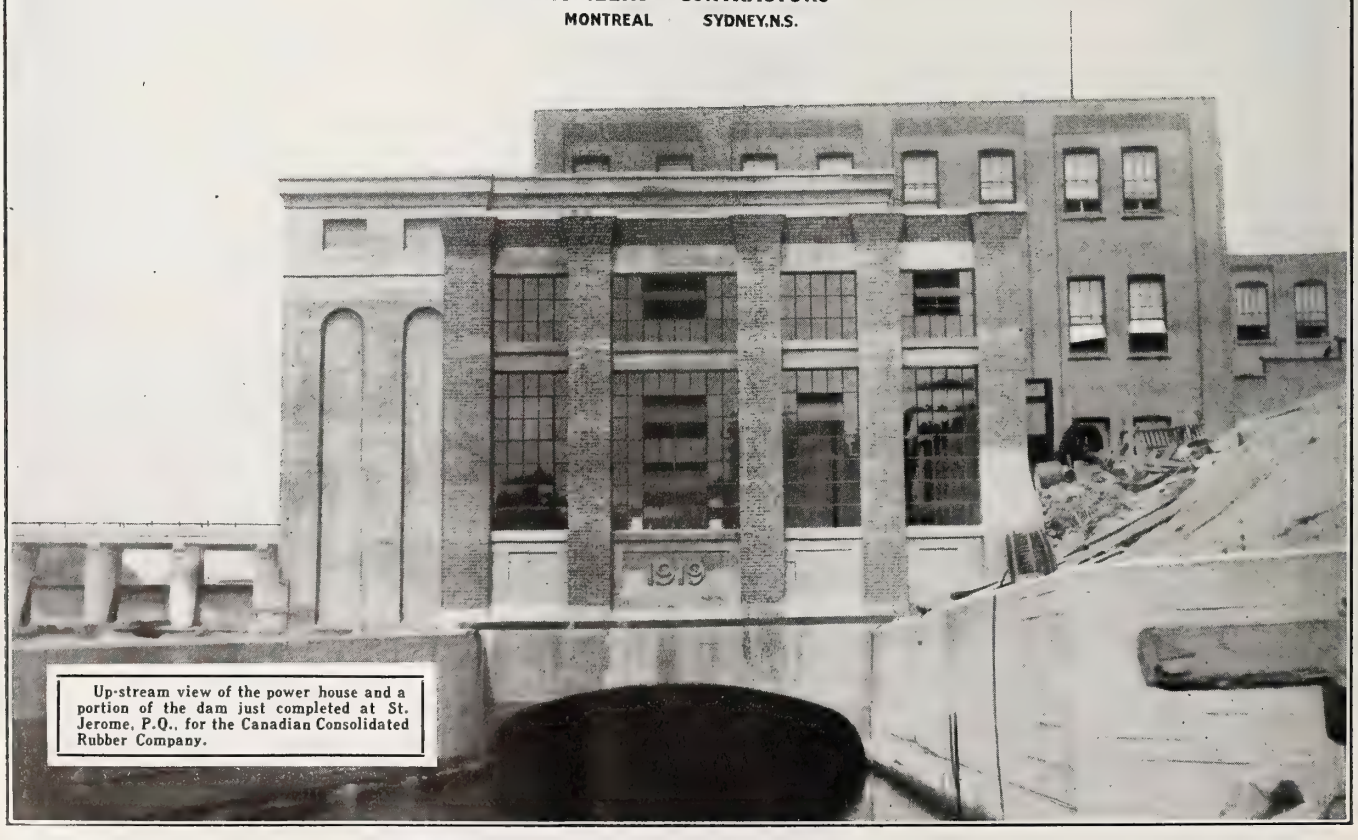
may be hard for the buyers, but buying

HOME GOODS

is better for Canada----especially when the goods are better, too.

DOMINION SHEET METAL CORPORATION, Limited
HAMILTON, CANADA

THE FOUNDATION COMPANY
LIMITED
ENGINEERS CONTRACTORS
MONTREAL SYDNEY.N.S.



Up-stream view of the power house and a portion of the dam just completed at St. Jerome, P.Q., for the Canadian Consolidated Rubber Company.

with the automobile industry, it went ahead faster than its capital. The company wanted to borrow money, but the security from the banking standpoint was none too good and the only rates offered were exceedingly high. The workmen asked for higher wages, but the cost sheets showed that the company could not pay materially higher wages without so increasing the cost of the product that it would lose business to competitors.

In their straits they had recourse to an industrial counsel. He discovered a number of things. Among them was that, due to the bad arrangement of the machinery, the stock room, and the transportation inside the plant, they were paying 60 per cent. of their total shop wages for walking and not for working. He found that they were carrying nearly a million dollars' worth of raw stock, whereas they only used about $300,000 per month and all of their stock was at that time readily procurable from day to day. They cut down their stock, rearranged their factory and adjusted credits so as to be able to turn their capital every 60 days instead of slightly more than once a year, with the result that this concern found that it did not need more capital at all—that it needed only better management and planning. They arranged to pay their men on performance and shortly they were able, with their former plant facilities and without increasing the number of men, to do nearly double the business which they had previously thought impossible without a large increase in capital. The workers not only earn large amounts, but the company has greater profits than ever before.

If that company had succeeded in borrowing all the money it wanted it would not have put its house in order, but instead it would have gone sprawling along, wasting money in every direction, and trying to pay a satisfactory dividend on the additional capital which it did not need. With all of this management wastage added into the price of the product, it could not adequately have paid the men.

The workers are quite right when they say that capital which performs no service in an enterprise should not expect a profit and, although the largest dividend paid upon capital will seldom mean a considerable increase in wages if spread over the dividend period, yet the principle is entirely correct that watered stock or idle capital should not expect to receive a dividend. The converse is equally true. Workers who insist that more men than are necessary be kept on a job should be prepared to pay the wages of those men. And men who do not give a return are no better than the capital which does not give a return.

Workers Want the Facts

But in many cases wage disputes do not seem to turn so much on the gross wages paid as on the relation to what the company itself is earning. A very large company which is noted for extraordinary stupidity in treating with workers, not long since announced a cut in wages and almost at the same time a special dividend to stockholders. Very naturally and very properly, they immediately had a strike on their hands. This strike will cost them considerably more in lost business and in idle plant charges than the comparatively small amount of money which they expected to save by cutting wages. It is not so much that workers object to the reduction of wages as that they object to being taken in, to being made the goats, so to speak, for extraordinary profits. Profits may not be extraordinary, but if the workers think they are, it amounts to the same thing. If a thoroughly representative body of the workers is supplied with all the facts, wage adjustments on a fair basis can always be arrived at.

An illustration of this is the Filene Store in Boston. Many years ago, Mr. E. A. Filene received a protest from a cashier who, being accidently short in her accounts, asserted that the sum should not be deducted from her wages, because when she was over in her accounts, it was the company and not she who received the money. She thought mistakes could work both ways. Mr. Filene said, "Let us leave it to a third party." They did, and the third person decided against the firm; but the idea gave such general satisfaction that out of it grew a co-operative association of the employees which now to a very large degree helps in the management of the store. This co-operative association appoints a committee to audit the finances. Every employee in that store knows how much the company makes and more or less accurately the salary of every executive officer and, although they do not fix their own salaries, yet through a system of committees and arbitration boards, every person who believes that his salary is not right has an opportunity to show why it is not right. The employees have a flat wage and a commission on all sales made above the point where they have earned their wages according to the calculation of selling expense. It is a curious fact that the decisions of the board of arbitration from year to year will average about one half in favor of the company and one half in favor of the employees.

Mass Meetings Are Held

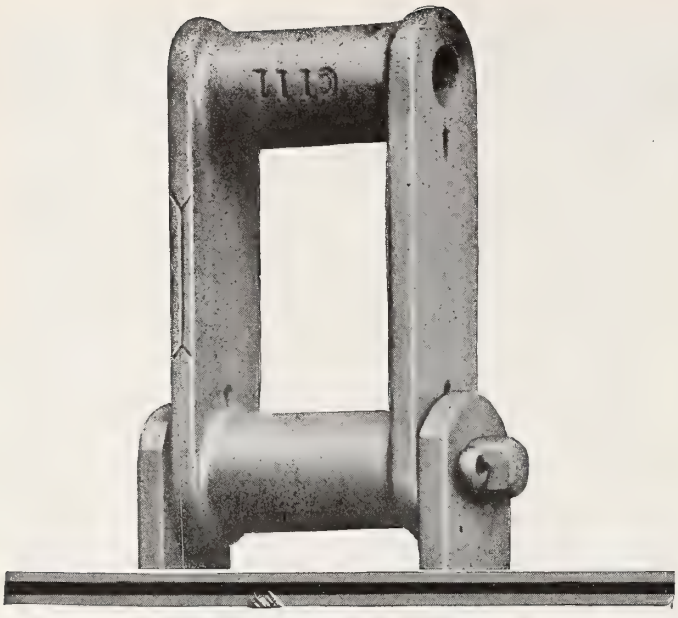
Take another case. Up at Bantam, Connecticut, is a machine plant employing about one hundred men. These men assemble at a mass meeting once a month to talk over business affairs, to hear complaints if there are any, and more especially, constructively to discuss the advancement of the business. A small percentage of these men are American born, nearly all of them came into the plant as unskilled laborers. They gained their training within this place. They have committees to attend to various details, but the working body being small, they transact most of their business in mass meetings.

That plant is in the war zone only thirty miles from Bridgeport, and at times during the war Bridgeport was offering three times the wages which were being paid at the smaller plant, but during that time only two men left for the high wages, and after a few weeks both of them came back. Long before the Armistice, the meetings began to discuss what they were going to do when peace came. Their wages had been increased, they knew exactly what the company was doing, what the company was making, and practically what each executive was drawing in the way of salary. Over and above their wages they receive a dividend on the gross factory production on the theory that if the factory turns out the proper amount of goods, it is up to the management to make the sales. They agreed among themselves that the big thing was to keep going after the Armistice and that, if it were necessary, they would reduce their wages and go upon a shorter time.

The salesmen of the company also attended those meetings and those salesmen went out and secured sufficient orders for advance work to be delivered after peace—the company was 100 per cent. on war work—and where many companies were demanding that the Government pay money for the cancellation of their contracts, this company on the day of the Armistice wired Washington for permission to cancel its contracts and within two days was going ahead full time on peace work! The only reason for the delay of two days was that most of the workers participated in every parade within a radius of twenty miles.

That plant has not found it necessary to reduce wages. Other employers in that same valley, whose people do not help them manage, have reduced wages and have been most of the time tied up with serious strikes.

Take another case. Out in Fort Wayne, Indiana, is a piano factory which is organized as a kind of industrial democracy. The executives of the company form a cabinet,



"COMBINATION"

LINK-BELT

FOR ELEVATING AND CONVEYING

STRENGTH and low cost are combined in "C" Class Link-Belt. It is well-established in the fertilizer industry as a durable Link-Belt for elevating and conveying

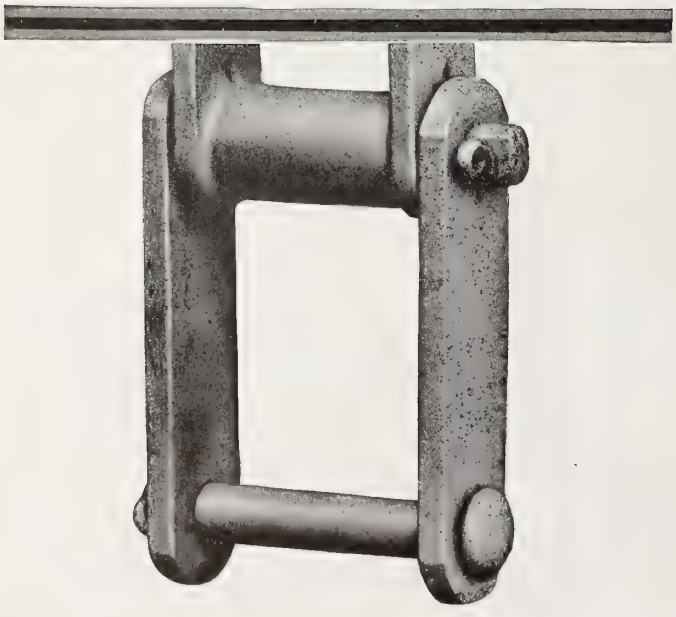
Length of life in service is increased by preventing motion between the pin and the side bars which hold it. The pins are accurately fitted to the side bars. A flat portion is milled accurately at the end of the pin, fitting into a carefully broached hole in the side bar. Obviously this construction is superior to forged lugs or necks under the head to hold the pin in place

Write for Folder No. 306, which gives particulars regarding "C" Class Link-Belt. Our experienced engineers offer their services in solving your problems in elevating, conveying and power transmission. Write to the nearest office.

CANADIAN LINK-BELT CO., LTD.

Wellington and Peter Streets
TORONTO

Stock also carried at 1195 St. James Street, MONTREAL, Que.



the superintendents and foremen meet in a body, which is called the "senate," while the workmen elect by secret ballot to the "house of representatives." These three bodies legislate for the plant. These men in 1914 during the depression, by their own action reduced their wages and went on part time. There were then 265 of them, but economic reasons caused their number gradually to dwindle until only 168 were left. These devised so many new methods and so many new machines that later, when times picked up, and the boom began, they were able, without increasing their number, to double what was supposed to be the former capacity of the plant. There has been no wage trouble. Their productivity and ingenuity have made them masters of their craft and it is profitable for the company to pay them double what men in similar lines receive. In more than one case, after having devised a better method, the men have voluntarily rearranged their piece rates because with their new methods the old rate produced an income which they felt was disproportionate to the job. In addition to their rates and wages each employee shares in what is known as an "economy dividend"—the relative savings in production costs are divided "fifty-fifty" between the company and the men.

Wages and Labor Disorders

What is a job worth? The average manufacturer will tell you that he cannot pay above the market rate, whatever that may be, and he will view dollars of wages exactly as a workman views them—that is, without any relation to what the one is going to get, or the other to give, in return for the money. A certain trade can pay so much and it cannot pay more—that is settled. The wage is high or low according to the number of dollars it contains, regardless of production—that is, regardless of return per dollar of wages. Because a man who formerly got $18 a week now finds $25 or $30 in his envelope he is convinced that he is receiving fairly high wages, while the employer is quite certain that he is paying high wages. One hears everywhere the complaint that the price of an article is so high because of the wages which must be paid. Somehow or other every discussion of employment troubles eventually gets around to wages. Now just what have wages to do with what is called "labor disorder," when are they high and when are they low, and is there any particular reason that wages should be lowered or should be raised?

Wages have this much to do with labor trouble and no more: If the wage which a man receives for a day's work is not sufficient to support him and leave even a moderate amount for pleasure, the wage is indeed too low; if the wage does not increase with the intelligence and production of the man, if it is possible for him to look ahead and see an absolute bar beyond which he cannot go, then something is the matter with the wage. High wages do not mean contentment and, if employment is arranged solely on the basis of wages, the men will neither give good service nor stay on their jobs. During the war it was the highest and not the lowest wage concerns which had the greatest turnover of labor.

Turnover of labor is the number of men who must be employed each year to retain an average force, and during the war, in some very high-wage establishments that employed on an average of 5,000 men, 25,000 men were employed during the year.

Labor and a Market Rate

Wages are high when they do not result in production; they are low—no matter how many dollars are contained in them—if they give production. The union between wages and production is inseparable, but it is neglected by nearly all employers and by most employees. There is somehow an idea, regardless of all the facts, that a particular job is worth just so much and no more. Hence we have what is

BY-PRODUCT COKE
SULPHATE of AMMONIA

"HAMILTON" PIG IRON

Basic Malleable Foundry

STEEL & IRON BARS
OPEN HEARTH STEEL SHEETS

FORGINGS

Car Axles
Shape and Drop Forgings
Carriage and Automobile Hardware

POLE LINE HARDWARE

(Black and Galvanized)

Pole Steps
Cross Arm Braces
Guy Clamps
Guy Rods

SCREWS

Steel, Brass and Bronze
Wood and Machine Screws

NAILS, SPIKES & RIVETS

Wire
Cut
Boat and Horse Shoe Nails
Railway
Pressed and Drift Spikes
Tacks
Shoe Nails
Steel and Copper Rivets
Burrs

Purchase the Products of Canadian Mills

TO uphold the Glory we have jointly earned—to honor our noble dead—to comfort the wounded, and extend to the men returned the hand of prosperous welcome, we must cast aside all forebodings and face the future with unbounded courage and confidence and, without a shadow of doubt, declare to the World that this Nation, which was so quickly and successfully transformed to a War basis, can be depended upon to revert to Peace conditions with equal success. The buyer and seller must recognize their duty to the Nation and co-operate fully to the end that all products that can be produced in Canada by Canadian workmen shall not be purchased elsewhere.

OUR Duty is plain; Canada with Canadian labor and capital can produce, manufacture and distribute products sufficient to keep the wheels of industry turning to the limit. The song of Prosperity and Happiness should ring out all over the land. Let us sincerely pledge to the extent of our needs, to purchase materials produced in Canada by Canadian Workmen, and the result of our efforts will return to us the Blessings of a Prosperous and Happy Nation.

THE
STEEL COMPANY OF CANADA
LIMITED

HAMILTON MONTREAL

RAILROAD TRACK MATERIAL

Angle Bars
Track Bolts
Tie Plates
Tie Rods
Spikes

WROUGHT PIPE

Black Pipe
Galvanized Pipe
Nipples
Couplings

LEAD PRODUCTS

Lead Pipe
White Lead
Shot
Putty

WIRE

Steel & Brass
Copper & Bronze
Heavy and Fine
Bright Annealed
Coppered
Galvanized and Tinned
Stranded
Steel and Copper Cable
Clothes Line
Staples
Barb Wire
Woven Wire Fencing
Fence Gates

Bars
Blooms
Billets
Wire
Wire Rods
Sheets
Horse Shoes
Angles
Channels
Plow Beams

called the market rate, which in turn varies according to the demand, as compared with the supply of labor.

But the best employers of the country have long since given up any idea that there is such a thing as a market rate for labor. There is no market rate for professional men above a certain grade, there is no market rate for surgical operations, or for good portrait painting. In fact we find the market rate only in mediocrity. That is what farseeing employers have discovered and, by lifting themselves out of mediocrity, have found it unneccessary even to inquire what the market rate is.

The market rate does not amount to much in merchandising. If an article is thoroughly good, it is bought eagerly regardless of the price, because it gives service. And that is just the way some employers have regarded the value of the services of those whom they hire; instead of looking at wages as so much paid out, they have looked at them in the longer way of service purchased and they have found that for $2 rightly paid they can purchase more than twice as much service as for $1.

There are many ways of paying wages and there is no rule at all involved, there is no best way—the best way is that which suits the circumstances. In many places what are called "piece rates" obtain; that is, a man is paid for the number of articles or operations which he completes during the day. Piece rates are generally unsatisfactory, because it is a very difficult matter properly to fix the rates. A very common loose method is this: Suppose a group of girls have been working on a certain article for some time. The superintendent drops in, chats with the foreman, and then asks why those girls shouldn't go on piece rates.

"What will the best of them do a day," he queries.

"Well, the fat girl will do about 200 and the big girl about 210."

"Then if we make the day's quota 225, they will all have to hustle to get the money they are getting now."

"You bet they will," responds the foreman, "and it will do them good."

And on that basis the rate is fixed with the idea in mind that an economy has been accomplished, when as a matter of fact, the only accomplishment has been in the way of creating a certain amount of resentment and dissatisfaction, which means that workmanship will suffer.

A Conclusion About Wages

The objection of intelligent workmen to better methods is that, when they do give service and make money, they immediately find that their rates are cut to such a point that their additional service results in no greater financial return to them than the previous poor service. In this, in many instances, they are perfectly correct, for the short-sighted employer does cut down when he thinks his men are "making all they ought to make."

From the long and varied experience of many able men this conclusion on wages can be deduced: "A wage is never of itself high or low, but the amount is relative and its righteousness depends upon the co-ordination of the respective skills of both capital and labor. It is not a fixed, but a shifting payment, depending upon and adjusted to performance, and that adjustment is best made by frequent conference between the employer and the employed."

But recently no fixed wage has been of itself satisfactory, and methods have been devised, some good and some bad, further to compensate according to mass performance and to establish a reason for working with the company.

The wage is the measure of the workers' contribution—how is it to be measured?

THE CANADIAN APPRAISAL COMPANY
LIMITED

The market conditions of high costs, which arose soon after the outbreak of war and have ruled ever since, have very largely destroyed the significance of figures of original costs appearing in Plant Accounts, particularly where these represent properties installed or acquired in pre-war times. Such figures are to-day misleading, and dangerous if adopted as a basis for insurance, and equally so for determining present day manufacturing costs.

Complete Insurance protection calls for present day values. The cost of replacing any but a new plant to-day would almost invariably be much greater than when it was originally installed, and if it is not insured on this basis of to-day's values you become a co-insurer; in other words, you are not fully protected, and in the event of a loss by fire you may have to bear a substantial part of such loss yourselves.

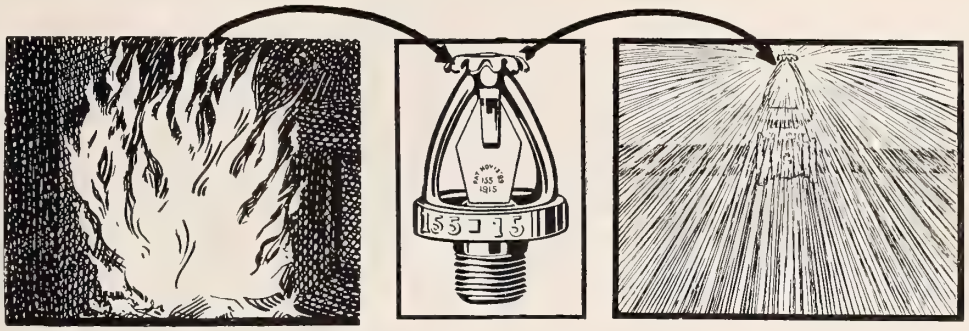
For the same reasons, a cost system based on pre-war costs is to-day a delusion and a snare.

CORRESPONDENCE INVITED

HEAD OFFICE, 17 ST. JOHN ST. MONTREAL

TORONTO Royal Bank Bldg.

NEW YORK Equitable Bldg.



When the Fire Starts----The Water Starts

That's the story in a nutshell of the Grinnell Sprinkler Head

With Grinnell Automatic Sprinkler Protection this is just what happens. A series of distributing pipes carry water to every nook and corner of the building. Every ten feet is a heat-operated sprinkler head which holds back the water. When the fire starts, the heat starts. When the heat starts, the water starts. When the water starts, the fire goes out!

It is a one, two, three and out proposition. In just this order fires are putting themselves out every day, and have been doing so for thirty-five years, until now over 30,000 officially reported successes are recorded.

Because of the absolute protection against fire afforded by automatic sprinklers, insurance companies give large reductions in insurance rates. These reductions vary from 40 to 90 per cent. and many owners of Grinnell Sprinkler Equipments have had them installed and paid for them out of their insurance savings. That is, the sprinkler systems have paid for themselves in from three to seven years, after which savings in insurance premiums go into the pocket of the wide awake concern.

Do you know what your insurance savings would be if a sprinkler system was installed in your establishment? It is easy to find out about this. Just drop us a line today and we will get in touch with you with the facts and figures.

SERVICE SPECIALISTS **CANADIAN** SERVICE SPECIALISTS

GENERAL FIRE EXTINGUISHER COMPANY

LIMITED

W. L. HORN, Managing Director

Toronto, Ont. --- 2440 Dundas St. West
Winnipeg, Man. --- 508 McCreevy Bldg.
Montreal, Que. --- 370 Beaumont Ave.
Vancouver, B.C. --- 1140 Hamilton St.

STEAM AND HOT WATER HEATING INSTALLATIONS.
POWER, PIPING, FITTINGS, VALVES, SUPPLIES AND SERVICE

GERMANY'S FUTURE IN INDUSTRY

According to this eminent British banking authority, the Allies are now interested in Germany as a business concern from which they must draw dividends. Otherwise they will have no chance of collecting the indemnities imposed upon the defeated nation.

From Barclay's Bank Bulletin.

The question of the export trade of enemy countries is a matter rapidly coming into prominence. Evidence—in some quarters regarded as perturbing—is already forthcoming that Germany's exports to Holland and the Scandinavian countries are increasing, largely, it is thought, because her depreciated exchange enables the importer to purchase very cheaply the marks necessary to pay for his German purchases.

Unquestionably a depreciated exchange does have this effect—it encourages exports and discourages imports, and so long as Germany's exchange remains depreciated, so long will she possess an advantage in selling her goods in the world's markets, providing her increased cost of production caused by inflation does not negative the advantage given by her depreciated exchange.

Effect of Inflation on Exchanges

This question is important and endeavors are being made in commercial circles to connect the depreciated exchange with the inflated currency. Actually there is no direct connection, for the value of currency is measured by its internal purchasing power, while that of exchange is measured by its value in exchange for other currencies and so by its external purchasing power. To take an extreme example—if under normal conditions a country which possessed a note issue based pound for pound on gold, yet prohibited gold exports, it would be possible by reason of an adverse trade balance for her exchanges to be quoted at a substantial discount. Equally it would be possible for a country with an unduly inflated and inconvertible currency—a country not possessing one single ounce of gold—to build up a favorable balance of trade such as would maintain her exchanges at a premium. This second position is extremely improbable because of the indirect effect of inflation on exchanges. The effect of inflation is to increase the cost of production and this has the effect of prejudicing and reducing exports. With the reduction in the volume of exports the foreign exchanges depreciate in value until such time as the depreciation or cheapness of the exchanges counterbalances the internal increase in the cost of production. Other things being equal, the foreign exchange quotation for a country possessing an inconvertible and inflated currency will stabilize at a figure where the high internal cost of production is negatived by the discount on her exchange.

Stimulation of Exports

Now under circumstances such as those existing to-day, when inflation is world-wide, let us take the case of a country possessing a depreciated exchange and an inconvertible currency and assume that approximately the inflation in that country is not greater than that in other countries. Here the cost of production will be increased by the inflation, but only in proportion to the increase in other countries. Exports therefore, will not be prejudiced by cost of production but they will be stimulated by the depreciated exchange. The effect of the stimulation of exports will be to restore gradually the balance of trade and to bring the exchange to parity.

Now take the position of a country which in existing conditions possesses a depreciated exchange and an inflated and



Are you, ***Mr. Manufacturer,*** satisfied with the **Quality** and **Delivery** of your Malleable Iron Castings?

Another satisfied customer writes us:

"Your service and material has been satisfactory for 1918 and we are very well pleased with both. You have at all times been able to give us the very best of castings and your service has been admirable.

We are only too glad to tell you this and hope that your other customers are as well satisfied as we are."

MAY WE EXPECT AN ENQUIRY FROM YOU?

McKINNON INDUSTRIES, LIMITED

St. Catharines, Ontario, Canada



Ford Motor Co. of Canada Ltd.
Ford, Ont.

Built by WELLS AND GRAY LIMITED
Engineers and Contractors

WE have built the whole of this plant. We started work in 1910 and have continued without interruption for eight years. Our men are still working on extensions to this plant.

All buildings are permanent, fireproof and modern, reinforced concrete being used almost exclusively.

We have the organization and equipment to handle this work quickly and economically.

WELLS AND GRAY, LIMITED

Engineers and Contractors

Branch Office:
Bank of Commerce Bldg.,
Windsor, Ont.

TORONTO, ONT.,
701 Confederation Life Bldg.

inconvertible currency, the inflation being greater than that existing in other countries. Here the undue inflation will tend to produce the high prices prejudicial to export trade while the depreciation in the exchanges will only stimulate exports if it is more than sufficient to counterbalance the higher prices. Even then the increase in exports will merely continue until the exchange is brought to a figure where the depreciation approximately offsets the increase in the cost of production.

Germany's Exchange Position

This would appear to be the position of Germany. For various reasons—sentimental and otherwise—the depreciation in her exchanges is more than sufficient to counterbalance the increased cost of production caused by excessive inflation. Because of this, exports are stimulated. As has been shown, however, this effect—other things being equal—can only be temporary.

The trading position would not be remedied, as is suggested in certain quarters, if such a proportion of Germany's notes and bank balances were cancelled as would bring the degree of inflation existing there approximately into line with that existing elsewhere. On the contrary, the first effect of such action would be to decrease the cost of production and thus increase exports until such time as the exchange stabilized itself at a new level. Other things are not, however, equal, for Germany, in order to pay her war indemnities, must of necessity export far more than she imports, using the balance for indemnity payments.

In few words and simply stated this is the theory when applied to a country which cannot adjust its trade balance by means of exporting gold or securities. There are, however, various factors which may operate to disturb its exact working. For instance, cost of production is affected by various influences other than inflation. There is the question of output per individual, the efficiency of organization, the standard of comfort demanded as represented by wages and profits, and also such matters as tariffs and natural advantages.

Taking the instance of Germany, there is the effect of war indemnities to be considered, for to pay these Germany must of necessity export far more than she imports, using the balance for indemnity payments. In these circumstances a consideration of her position will be of interest, for although opinions may differ as to the severity or otherwise of the terms of the peace treaty, there can be no doubt that Germany has a great task before her compared with which our reconstruction difficulties are quite trifling.

In a Worse Financial Position

Always ignoring the United States, whose position is unique, Germany's war debt per head of her population shows a more favorable percentage to the capital per head of population than that of the other belligerents, but this position is altered when allowance is made for the loss of territory and population under the peace treaty. Starting, therefore, in a worse financial position than the allies, Germany will have to pay to them vast sums in the shape of indemnities. When the present internal condition of Germany is remembered, together with the facts connected with the working of the blockade, the wisdom of allocating some portion of the first £1,000,000,000 to the provision of food and raw materials becomes apparent—indeed, unless this is done and done liberally, there will be little hope of Germany meeting within

Canadian Carbonate Company, Limited

Offices and Factories:

HALIFAX, MONTREAL, TORONTO

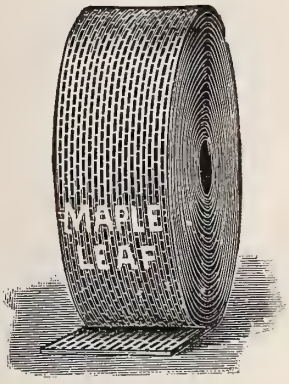
WINNIPEG, VANCOUVER

■

Manufacturers of

"CROWN BRAND" LIQUID CARBONIC ACID GAS

Dominion Belting Co., Limited
Hamilton, Canada



SOLE MANUFACTURERS OF THE CELEBRATED

"MAPLE LEAF" BRAND

STITCHED COTTON DUCK BELTING—

STRONG DURABLE ECONOMICAL TRUE RUNNING

Being thoroughly waterproof it is equally good for running in wet or dry places. As a main drive belt, "MAPLE LEAF" cannot be excelled and for conveyors it is in great demand. A trial belt will convince you

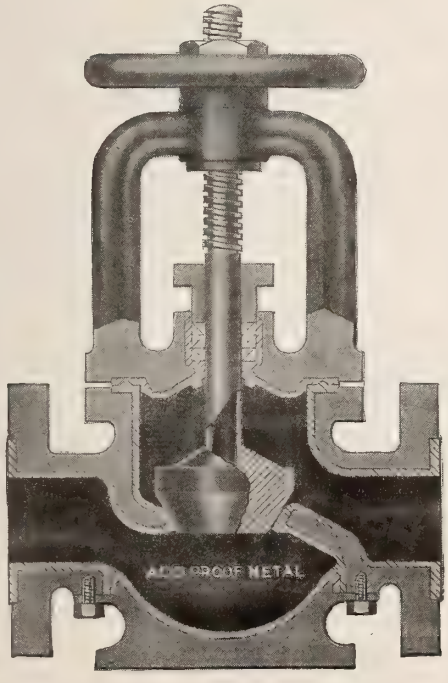
MAPLE LEAF BELT DRESSING

The Best for all kinds of Belts

WRITE FOR SAMPLE AND PRICES

Quebec Branch: 51 Duluth Building, Montreal

Acid Resisting Pump Valves



We wish to call your careful attention to our line of Acid Resisting Pumps, Valves and Fittings, they are absolutely perfect in detail. In price comparison with Acid Resisting Bronze Valves, etc., they make an enormous saving in your initial cost.

For lining Acid Tanks, Agitators, and Sulphite or Sulphate Vats, Hoyt's Sheet Metal will give far better service than the ordinary Chemical Sheet Lead in the market. If you will write us stating conditions under which your Sheet Lead is operating, we would be pleased to go into the matter fully and will convince you of the economy of Hoyt's Sheet Metal.

Write for Catalogue

HOYT METAL COMPANY

FACTORIES:

London, England; Toronto, Canada; St. Louis, Mo.
New York, N.Y.

the specified time even the first thousand millions, to say nothing of the four thousand millions to follow.

Bargaining with Germany for an indemnity resolves itself into bargaining for a larger share of her export business.

Allies Must Support German Industry

Unpalatable as it may be to many, the fact is that, because of the indemnities they are to receive, the allies are now interested in Germany as a business concern—not as a beaten, disorganized and ill-found nation—and if they are to draw from that business the dividends they require and demand, then not only will it have to be superbly organized but it will demand the unremitting energy of its workpeople and the ungrudging economic assistance of the would-be receivers of dividends. Facts are stubborn things and their inevitable consequences are better faced than ignored. The allies have to face the fact that if they are to receive from Germany a great contribution of their war expenses they must first of all help her to become again a great industrial nation, for apart from a comparatively trifling total of gold and foreign securities the indemnity will indirectly have to be paid for and accepted in goods. It cannot be too strongly emphasized that an indemnity must be paid in kind. Therefore Germany must manufacture and ship her goods. She must also find buyers, otherwise she cannot pay. It follows that the acceptance of an indemnity forces the allies to trade with her.

Still facing the facts as they are, this will involve admitting German products into allied markets, and even this will be useless unless we, the allied peoples, despite resolutions to the contrary, buy freely the things that are "Made in Germany." If we do not do this, or if we render it impossible for Germany to compete with us in the world's markets—then we must sacrifice the indemnity.

Further, sanity tells us that no people will continue to work and strive without reward or hope, and it follows that the allies must assist Germany, not only to an industrial reconstruction adequate to the production of a surplus of commodities large enough to meet indemnity installments, but also to provide the German people with sufficient present comfort and hope of future comfort to induce and enable them to put forth their maximum effort. Briefly, then, the allies must individually recognize that, having in righteous judgment sat on Germany and assessed the penalty, they cannot, in common justice, refuse her the only possible means of payment—payment in kind. Admitting this, the sooner they organize and settle down to business with their late enemies the sooner they realize the impossibility of reconciling the receipt of an indemnity with efforts to keep Germany out of the world's markets, and with such remarks as "never again will I knowingly buy an article 'made in Germany,'" they sooner they help Germany to re-establish her industries and settle down to an ordered existence, free from Bolshevik disturbances, the better will it be for the world at large and for the ultimate success of the League of Nations.

Develop Productive Powers

Reconstruction needs and the compulsory abstinence of the past five years will supply the whole world with adequate work for a long time to come, and it is for British trade to develop energetically its productive powers, and for the British government to make the way smooth for private enterprise. The fact that Germany is already returning to the Scandinavian markets is not a matter for perturbation, for, apart from other considerations, it is an inevitable consequence of the indemnities that in the future, as in the past, she will be our competitor in foreign markets.



We excel in the manufacture of Commercial Badges and Buttons for Officials and Employees of large plants.

This illustration shows a few of our designs, which have met with popularity.

Special sketches submitted in whichyour suggestions can be incorporated, if so desired.

CARON BROS.

CARON BUILDING

233-239 Bleury Street - - - MONTREAL



The Right Price
The Right Service

That is what you are looking for, and that is what you get when you place with us your orders for

Spruce and White Pine

or any other dressed or rough lumber. We obtain our logs from timber limits covering 1,500 square miles. Our planing and resaw mills are the "last word" in modern equipment. As a result our lumber is produced economically. Our customers get the benefit.

We have interesting quotations also for buyers of

Kraft and Unbleached Sulphite Pulp

An output of 50 tons of each daily assures the closest prices and prompt delivery.

Your inquiry will be attended to promptly.

BATHURST LUMBER CO., LIMITED

BATHURST **N.B.**

BATHURST

CHANGES IN THE COST OF LIVING

Between July, 1914 and July 1919, an increase of 71 per cent. was recorded in the cost of living of American wage-earners. The cost of clothing increased most, being double what it was in 1914. Food increased by 85 per cent., and fuel, heat and light, by 57 per cent. These are findings of the National Industrial Conference Board.

(From the "Manufacturers' News.")

The cost of living for American wage-earners was 71 per cent. higher in July, 1919, than at the outbreak of the world war in July, 1914, according to a preliminary statement issued to-day by the National Industrial Conference Board based on a careful survey of conditions the country over. This represents an advance of 6 per cent. since March, 1919, and of 12 per cent. since June, 1918. The increase of 71 per cent. to July, 1919, marks the highest point yet reached and compares with an increase of 61.3 per cent. to March, 1919; of 65.9 per cent. to November, 1918, and of 52.3 per cent. to June, 1918.

The total increase for the five-year period since the beginning of the war, in the average cost of each of the principal items entering into the family budget was:

	Per Cent.
All items	70.8
Food	85
Shelter	28
Clothing	100
Fuel, heat and light	57
Sundries	63

Increases since last March were as follows:

	Per Cent.
All items	5.9
Food	5.7
Shelter	4.9
Clothing	10.5
Fuel, heat and light	No change
Sundries	5

In combining these separate items to obtain the increase in the budget as a whole, account has been taken of the fact that approximately 43 per cent. of the income of the average wage-earner's family is spent for food; 18 per cent. for shelter; 13 per cent. for clothing; 6 per cent. for fuel, heat, and light, and 20 per cent. for sundries. This distribution is based on studies of the expenditures of a large number of families made by the United States Bureau of Labor Statistics and other authoritative government and private agencies. The method of computing the change in the cost of living on the basis of the increases found for the separate items by the National Industrial Conference Board is shown below:

Budget items.	Relative importance in family budget. Per cent.	Increase in cost between July, 1914, and July, 1919. Per cent.	Increase as related to total budget. Per cent.
All items	100.0		70.8
Food	43.1	85*	36.6
Shelter	17.7	28	5.0
Clothing	13.2	100	13.2
Fuel, heat and light	5.6	57	3.2
Sundries	20.4	63	12.8

*Based on an increase of 84 per cent. up to June 15th, 1919, as reported by the United States Bureau of Labor Statistics.

The allocation of expenditures for the different budget items usually varies so little among the families of wage-earners that with any reasonable distribution there would be but slight deviation from the average increase of 71 per cent. since 1914. This figure is, therefore, broadly representative of conditions the country over. But it should be emphasized that special local, racial, or other circumstances may at times make necessary some revision to adapt this estimate to meet specific conditions. This is especially true of rents, since changes in this item have at times differed considerably in separate communities.

Estimates of changes in the cost of living made by the board on the basis of retail prices and expenditures for the

SELLING The Consumer Seventy-two Years EXPERIENCE

THAT is what you do when you sell McClary's Goods. Seventy-two years ago McClary's began to manufacture and sell good goods. To four separate generations the same quality has been supplied. Each generation has told to its children the worth of McClary's goods. To-day, the fourth, is receiving its McClary's education through consumer satisfaction, National and Local advertising. This force of publicity is forever flowing strongly and creating sales. Dealers should take full advantage of our co-operative business methods. Full information sent on request to our nearest branch.

McClary's

LONDON, TORONTO, MONTREAL, WINNIPEG, VANCOUVER, ST. JOHN, N.B., HAMILTON, CALGARY, SASKATOON

separate budget items by average families must not be confused with changes in wholesale price index numbers such as Bradstreet's, Dun's or those of the *New York Times* Annalist. Wholesale commodity prices do not necessarily change concurrently with retail prices and, as already pointed out by the board, they often tend to advance faster than retail quotations. Although valuable as an index of market conditions, commodity prices do not take account of the relative importance of the different items in the family budget. Likewise changes in retail prices of food should not be used as representing changes in the cost of living, since they measure but one item in the budget. The only accurate measure of changes in the cost of living is that based on retail prices weighted according to the proportion of the total budget spent for each item by average families.

More detailed information regarding changes in the cost of the separate budget items is given briefly below. Average retail prices of food as collected by the United States Bureau of Labor Statistics have been accepted by the board as the best available measure of changes in the cost of this item. For all others, original data were secured by the board through replies to detailed questionnaires distributed to a large number of retail merchants, real estate brokers, and others in close touch with local conditions in all parts of the country.

Advance in Retail Food Prices

Average retail prices of food were slightly more than 5 per cent. higher on June 15, 1919, than on March 15, 1919, and 84 per cent. higher than before the war, on the basis of average prices for the year 1913. The increase within the year ending June 15, 1919, was 14 per cent. These figures cover price changes of 22 articles of food as reported by over 2,000 dealers. Since the bureau's estimate of 84 per cent. increase is for June 15, a slight addition was made by the board to allow for a possible rise in the last half of the month.

Some of the articles showing the most significant price changes since June, 1918, were onions, the price of which increased 133 per cent.; prunes, 53 per cent.; coffee, 41 per cent.; potatoes, 31 per cent.; cheese, 28 per cent.; eggs, 26 per cent.; butter, 24 per cent.; lard, 23 per cent.; sugar, 16 per cent.; milk, 15 per cent.; and flour, 12 per cent. The prices of chuck roast and plate beef decreased 5 per cent., of corn meal, 6 per cent., and of navy beans, 31 per cent. Compared with June, 1913, the average prices of the following articles in June, 1919, were 100 per cent. or more higher: sugar, pork chops, ham, bacon, potatoes, corn meal, flour, and lard.

Rapid Increase in House Rents

Reports regarding rent conditions were received from practically all of the cities in the United States having a population of 50,000 or over, and from a number of smaller places. Of more than 300 statements from persons closely in touch with rents as paid by wage-earners in these separate cities, only one recorded a decrease in this item since March, 1919. In many places rents were still rising, although few pronounced increases were found. Frequently the larger increases reported in July were in those localities where former advances had been least, indicating that the tendency to a leveling of the total increase in rents the country over, which had been evident in March, was still in progress in July. The estimate of 28 per cent. as the average rise in rents since 1914 is, therefore, of more general application than that of 22 per cent. up to March, 1919; of 20 per cent. up to November, 1918; or of 15 per cent. up to June, 1918, as given in previous reports by the board. Between March, 1919, and July, 1919, the average increase in rents for the country as a whole was about

The Hamilton Bridge Works Co. Limited

HAMILTON, - ONTARIO

ENGINEERS, MANUFACTURERS and CONTRACTORS

Steel Railway Bridges
Steel Highway Bridges
Steel Buildings
Steel for Ships
Steel Turntables
Steel Trusses and Columns



Capacity 36,000 tons

5,000 tons of Standard Shapes of Structural Material in our yards for immediate shipment.

Enquiries solicited

The above is a building recently erected for the Steel Company of Canada at Hamilton, Ontario

"BEATTY"



Material Handling Plant has back of it 55 years of successful experience.

HOISTING ENGINES
STEEL DERRICKS
DIPPER DREDGES
CLAMSHELL BUCKETS
DERRICK IRONS
SUCTION DREDGES
etc.

Write us for Catalogue 21 and Prices

M. BEATTY & SONS, Limited, WELLAND

AGENTS:
H. E. Plant, 1790 St. James St., Montreal
R. Hamilton & Co., Vancouver
Kelley-Powell Ltd., Winnipeg
E. Leonard & Sons, St. John

GEARS
Spur
Worm
Spiral
or Gear Cutting from your blanks.

Hamilton Motor Works, Limited
HAMILTON, CANADA

FORGED STEEL TOOLS
AXES, HAMMERS, WRENCHES
CANADA
FOUNDRIES & FORGINGS, LIMITED
BROCKVILLE, CANADA

5 per cent. These are averages for all sections of the country and reflect a considerable variety of rent conditions.

The opinion was general that rents would continue to rise, since, on account of the abnormally high cost of construction and maintenance, the number of houses being built is inadequate to meet the demand for accommodations. In some places the housing shortage had stimulated popular "own your own home" campaigns and various schemes to assist people to build.

The advance of 100 per cent. in the cost of clothing is larger than that of any other of the major budget items. The average outlay for a family's clothing needs in July, 1919, was 10.5 per cent. more than in March, and 3.6 per cent. more than in November, 1918, when the previous high peak of clothing prices was reached. Since the summer of 1918, the average cost of clothing had advanced 13 per cent. These increases were obtained by combining the percentage of change in the cost of the separate articles according to their relative importance in the total clothing budget.

Quotations for 29 types of most commonly used yard goods and wearing apparel were secured from 146 dealers in 43 cities. For every article the average price was higher in July, 1919, than in March. As compared with November, 1918, changes varied, but the most important were upward. Cotton and woollen yard goods, overalls, knit and muslin underwear, and the cheaper grades of work shirts, although higher in price than in March, were slightly lower than in November. Prices of yard goods increased more than did prices of made-up garments in the five-year period since 1914, but the cost of women's shoes advanced 131 per cent.; women's gloves, 125 per cent.; women's knit underwear, 120 per cent.; women's coats, 116 per cent. and women's hosiery, 104 per cent. between July, 1914, and July, 1919. In every case these marked the highest points reached since 1914. Several articles of men's clothing also cost 100 per cent. more than before the war.

Dealers very generally expressed the opinion that clothing prices were likely to go still higher.

Fuel, Heat and Light

No important change in the combined cost of fuel, heat and light between March and July, 1919, was indicated. While there was a small increase in the cost of anthracite, there was a corresponding decrease in the price of bituminous coal. Prices of other items in this group were practically unchanged. The average increase in the total cost of fuel, heat and light combined, therefore, is again placed at 57 per cent., as in the March study.

Retail price quotations of anthracite and bituminous coal for household use, secured in July, 1919, from 97 dealers in 43 cities, were analyzed. These showed changes since last March for anthracite varying from a 9 per cent. increase in Boston, to a 9 per cent. decrease in Charleston, S.C., and an average increase for the country as a whole, of 1 per cent. to 2 per cent. The total increase since the beginning of the war in 1914 was between 54 per cent. and 57 per cent. The increase for bituminous coal within the five-year period was 55 per cent.

Coal dealers were generally of the opinion that the price of anthracite would advance further within the next few months, but there were suggestions that the price of bituminous coal might drop.

Average retail prices of coke and wood fell in a number of cities, but in others they advanced; for the entire country no significant difference was indicated.

Few important changes in the cost of gas and electricity to small consumers between March and July, 1919, were reported, although the tendency of rates was upward.

Reports regarding car fare, one of the principal items in the sundries group, were received from 143 cities. In 121 of



Manufacturers, PREVENT Big Fires by "nipping them in the bud," with

"IMPERIAL" FIRE EXTINGUISHERS

(Every "IMPERIAL" bears the Underwriters' label)

If your factory burns, how will you fill orders during the long period of rebuilding? How will you hold your customers? How will you hold your employees? Your *Insurance* won't do all this!

Every Insurance Company makes an allowance on the premium rate for the installation of APPROVED Extinguishers.

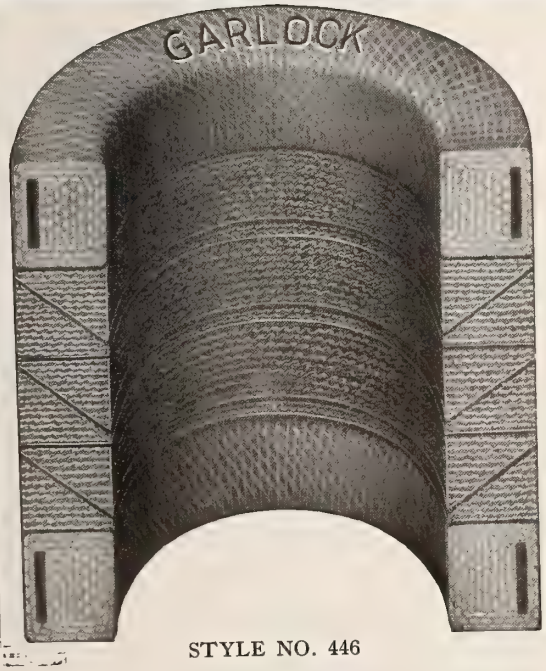
Your Insurance Agent can tell the exact amount an "IMPERIAL" will save you.

"Put the Fire out before it Puts you out"

Send for Booklet and Prices

The Booth-Coulter Copper & Brass Co. Limited

115 Sumach Street • TORONTO, Ont.



STYLE NO. 446

FOR PACKING

High Pressure Steam Rods
Use Garlock Style Number 200

Medium Pressure Steam Rods
Use Garlock Style Number 446

Low Pressure Steam Rods
Use Garlock Style Number 333

High Pressure Steam Joints
Use Garlock Style Number 950

Ordinary Steam Joints
Use Garlock Style Number 22

Worn or Scored Piston Rods
Use Garlock Style Number 336

Cold Water Piston Rods
Use Garlock Style Number 99

Inside Packed Plungers
Use Garlock Style Number 260

These packings are guaranteed to give satisfactory service under the above conditions.
Write for catalog.

The GARLOCK PACKING COMPANY, Hamilton, Ontario

Branches:

Calgary, Alta., 211 8th Avenue West
Montreal, Que., 409 Shaughnessy Bldg.
Winnipeg, Man., Galt Bldg.
Toronto, Ont., 404 Continental Life Bldg.

Jas. W. Foley & Co.
POTTERS
ST. JOHN - - N.B.



Stoneware, Rockingham Ware, Flower Pots, Stove Linings, Etc., Etc.

MADE IN CANADA
OLD TYME
PURE SAP
MAPLE SYRUP
EVERYBODY LIKES IT
LION BRAND
MAPLE BUTTER
1lb Tins
SOLD EVERYWHERE
IT'S DELICIOUS

Maples Limited
Manufacturers and Refiners
TORONTO CANADA

these there had been no change between March and July, 1919, and in 3 there was a decrease. Such increases as occurred were small. Changes in car fare the country over were, therefore, unimportant. The retail price of tobacco was somewhat higher in July than it had been in March, partly because of increased taxes. The tax on candy, soda water, and ice cream as well as on toilet preparations and drugs also contributed to raise the cost of these items. Household furnishings and supplies were, in many instances, higher in July than they had been in March. On the other hand, the prices of admission to amusement places, of reading materials, and of doctors' services remained about the same. Postage decreased.

From these separate estimates it appears that there was a small increase in the cost of all sundries combined between March, 1919, and July, 1919. This has been placed at 5 per cent. It must be understood, however, that families vary more in their expenditures for sundries than for any other of the budget items and that no estimated change can be said to be typical. The estimate of 5 per cent. increase is based on a wide variety of combination and is as representative of the change that has occurred as any that can be reached. This brings the total increase in the cost of sundries since 1914 to 64 per cent. as contrasted with 55 per cent. in March, 1919, and November, 1918, and 50 per cent. in June, 1918.

Recapitulation of Complete Budget

A summary of changes in the cost of living as determined in the four surveys made by the National Industrial Conference Board is given in the table below:

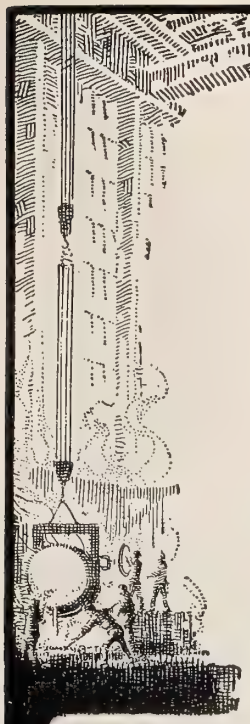
Budget items.	July, 1914, to June, 1918. Per cent.	July, 1914, to Nov., 1918. Per cent.	July, 1914, to Mar., 1919. Per cent.	July, 1914, to July, 1919. Per cent.
All items	52.3	65.9	61.3	70.8
Food	62	83	75	85*
Shelter	15	20	22	28
Clothing	77	93	81	100
Fuel, heat & light	45	55	57	57
Sundries	50	55	55	63

*Based on an increase of 84 per cent. up to June 15th, 1919, as reported by the United States Bureau of Labor Statistics.

Get Trenton Plant

American Interests Secure Possession of Chemical Plant Located at Trenton, Ont.

Briggs & Turivas, Chicago and New York, dealers in iron and steel scrap and salvage, have purchased from the Imperial Munitions Board of Canada the entire plant and property of the British Chemical Co., Ltd., located at Trenton, Ont. A Canadian Corporation under the name of Briggs & Turivas of Canada, Ltd., and capitalized at $1,200,000, has been formed, with main offices in the Canadian Pacific R. R. Building at Toronto, Ont., and a branch office at Trenton, Ont. The property consists of 255 acres and fronts the Trenton River, a navigable stream. Three trunk line railroads enter the plant. The British Chemical Co. was formed and built during the war at an outlay of approximately $8,000,000. The equipment consists principally of two separate and complete sulphuric acid chamber plants, sulphuric acid concentrators, a nitric acid plant, an alcohol rectifying plant, two refrigerating plants, a smokeless powder plant, a complete high pressure fire system, two miles of narrow gauge trackage with electric locomotives and trucks, two boiler houses, electrical equipment, warehouses, storage tanks, administration building, etc. The new owners are as yet undecided as to the extent of the operations of the plant for the future, but it is expected that the powder manufacturing apparatus and equipment, and possibly the nitric acid plant, will be dismantled and disposed of, allowing the sulphuric acid plants to stand.



Are You Sure it is Right?

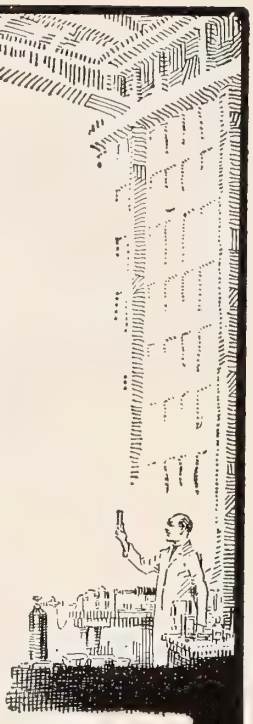
—that oil, water, or even more complex material you are using in your manufacturing? Has it the requisite properties? Are you ***positive*** it is doing what you think it is?

Every manufacturer some time or other has doubts, which, in the interests of his business, he dare not disregard.

It is our daily work to analyze and test all commercial materials, reporting exact and detailed facts and figures.

Our well equipped laboratories and thoroughly practical chemists are at your service at all times

THE LARGEST AND BEST EQUIPPED COMMERCIAL LABORATORIES IN CANADA



MILTON HERSEY COMPANY, LIMITED

Industrial Chemists, Engineers and Inspectors
MONTREAL and WINNIPEG

ELECTRICAL SUPPLIES

ALWAYS IN STOCK



FOR IMMEDIATE DELIVERY

EDISON MAZDA LAMPS
WIRE, CORDS AND CABLES
WIRING DEVICES, ALL KINDS
CONDUIT AND FITTINGS
SQUARE D SAFETY SWITCHES
SQUARE D MOTOR STARTERS
ECONOMY FUSES
EMERSON FANS
LIGHTING FIXTURES
LAMP GUARDS
LAMP REFLECTORS
DOUBLE-SURE TAPE

McDONALD & WILLSON Limited

347 YONGE STREET - TORONTO



The recent additions to our boiler shops have placed us in a better position than ever to turn out Steel Plate work efficiently and economically. Let us quote on your next requirements in :

CONVEYORS
SMOKE BREECHINGS
STEEL STACKS
SPARK ARRESTORS
STEEL BUCKETS
ELEVATORS
RIVETED TANKS
STEEL TANKS
STORAGE BINS
COOKERS AND DIGESTORS
STEEL GAS MAINS
REFUSE BURNERS
WELDED TANKS
SETTLING TANKS

Waterous
BRANTFORD, ONTARIO, CANADA

STRUCTURAL STEEL
and
BRIDGE BUILDERS



We build and erect all kinds of Structural Steel, Bridges, Roof Trusses, Bank and Office Railings, Stair Work, Elevator Grills, Fire Escapes, etc.

Over 5,000 Tons in Stock of Beams, Column Sections, Angles, Tees, Plates, Bars, Checkered Floor Plates, etc.

McGregor & McIntyre, Limited
1139 SHAW ST. TORONTO, CAN.

ENLARGING THE WORKMAN'S DOLLAR

Many employers have doubtless considered possible ways of increasing compensation to workers without raising wages. Often co-operative or company stores have been considered, but there have been too many failures in attempts of this kind to permit of hasty action. In the following article the possibilities of granting concessions to competent dealers are set forth.

By Emerson P. Harris.
(From "Industrial Management.")

The conditions under which most employees of big industrial companies spend their money for family supplies leaves much to be desired. Where no effort is made in their behalf, workmen are at best taxed for the present chaotic and wasteful system of merchandising, and at most, they are exploited by a raise in prices whenever there is a raise in wages. The writer is told by an officer of a large mining company that this latter practice is not uncommon among retailers who sell to this company's men.

Many managers of industrial companies have felt moved to try to reduce the cost of purveying family supplies to their workmen by conducting stores in their interest. But usually, for one reason or another, such undertakings are discontinued after a comparatively short trial. The reason for this lack of success could not be given in detail without information which is not at present available. But there is one broad fact which goes far to answer the question, and that is that what the employer seeks to save for his employees is absorbed in inefficient buying and management on the part of the manager in charge of the company store. It is assumed that there is sufficient gross profit usually made by the local dealers to make it possible to save money for consumers, even though the consumers' store is run by a hired manager less efficiently than the individually owned store. This is a fatal mistake. The local retailer may sell at prices averaging as much as 25 per cent. gross profit on the retail price, and yet his expenses may be such as to leave him no profit above a small salary for his own work. Let a store start which is owned either by a co-operative society of employees or by the employing company, and be run by a hired manager, and the chances are that the inexperience and inefficiency of the management will be such that the new store cannot even meet the prices of the existing stores, let alone making a saving for its customers.

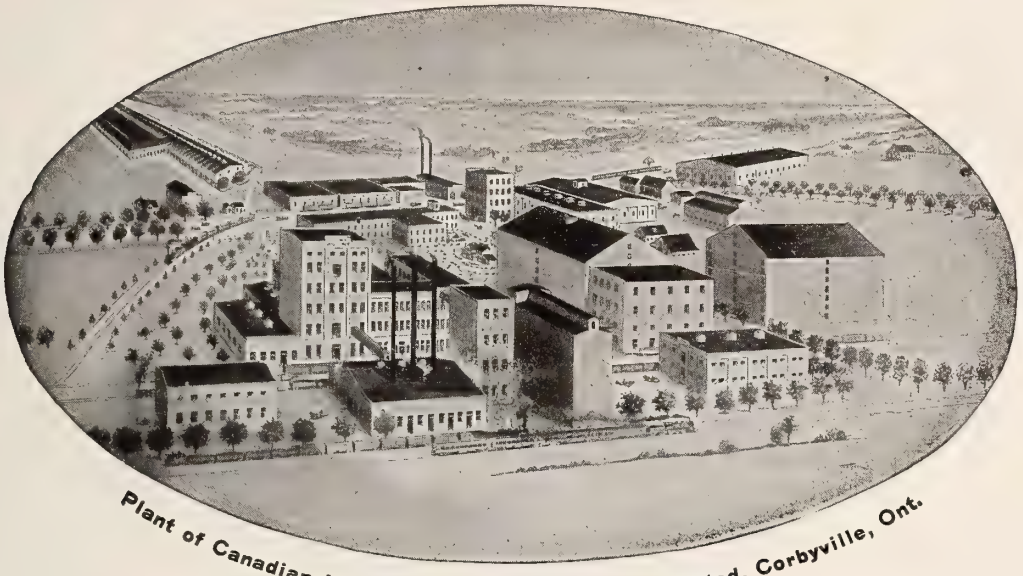
Inefficiency and Waste in Retailing

The greatest cause of inefficiency and waste in retailing to-day is the sham hide-and-seek competition consisting of selling a few well-known articles at a low price and recouping by selling hundreds of less well-known items at good profits. Through this policy consumers are switched from one store to another, and half a dozen stores are permitted to exist where one would suffice, and prices are made high by the duplication of overhead expenses.

The efficient and economical purveying of family supplies is a highly technical business requiring a thorough knowledge of a thousand different articles, the ability to judge of them regardless of brands and trademarks, and such familiarity with values and sources of supply as no hired manager is likely to have. Again, the paternalistic attitude of the industrial store is such as often to breed suspicion on the part of employees, and the store is without the spirit of aggressive enterprise which in privately owned stores attracts and holds trade and makes for large volume of sales.

This false assumption that the sale of goods at, or even below, going prices is sure to create a surplus with which to meet the cost of experiments and mistakes in buying, and

ALCOHOL



Plant of Canadian Industrial Alcohol Company Limited, Corbyville, Ont.

With a capacity of 450,000 (proof) gallons per month we are the largest producers of Alcohol in Canada.

Manufacturers of vinegar, perfumes, essences, pharmaceutical preparations, etc., are invited to write us for prices of Alcohol suitable for their particular line of business.

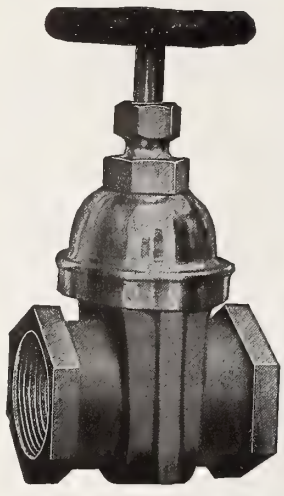
We make a special feature of contracting for the requirements of manufacturers for the year or season, thus providing not only a uniform cost but also a steady supply as needed.

Those who are using Duty Paid Alcohol in their manufacturing processes would do well to consult us with a view to using it "In Bond," thus avoiding the use of two-year-old Alcohol. Under the rules and regulations of the Department of Inland Revenue, newly made Alcohol may be used "In Bond." This Alcohol is much cheaper than two-year-old.

METHYLATED SPIRITS or Denatured Alcohol is sold only by the Department of Inland Revenue, Ottawa, Ont., but any other kind of Alcohol may be secured from us.

CANADIAN INDUSTRIAL ALCOHOL COMPANY LIMITED

MONTREAL, QUE.



HERE IS A

Brass Gate Valve

You will find it always made from HighGradeSteam Metal and beautifully finished.

They are not made of one quality this year and another next. Always reliable and worth the price you pay.

The Kerr Engine Co., Limited

VALVE SPECIALISTS

WALKERVILLE - ONTARIO



BOILERS—all types—we build them. Our shop practice is modern, our workmanship careful.

Customs flanging—we are equipped to handle in all sizes—we can give prompt service.

Engineering & Machine Works of Canada, Limited

St. Catharines - Ontario

Eastern Sales Office : Hall Machinery Co., Sherbrooke, Que.

management is at the bottom of thousands of failures of store enterprises of well-intentioned groups or companies. The failure of the undertaking is made more probable by the further fact that employees expecting immediate benefits, are in no frame of mind to overlook apparent occasional overcharges or other things they think faulty.

The employees, on their part, have often undertaken something resembling Rochdale co-operation, but up to this time, this character of store has not been any more successful than the company store. The co-operative spirit among consumers has not reached this side of the Atlantic so as to enable working people to make the immense savings which 15 or 20 million British workmen are enjoying.

And yet, one who studies the situation can hardly relinquish the thought that in some way a large part of the expense of retailing and wholesaling should be saved to working people who are in a position collectively to buy large quantities.

Gross Profits of Retailers of Food

The Harvard Graduate School of Business finds that the gross profits of retailers of food range all the way from 14.6 to 27.9 per cent. on selling prices, and that the gross profits of wholesalers range from 7.7 to 17.2 per cent. If we were to assume that some of the goods which are sold at the highest retail profit also pay the highest wholesale profit, the gross tax on the consumer under these most disadvantageous conditions would be 45.1 per cent.

But if the dealers, retailing at 14.6 per cent., buy of the wholesalers who only get 7.7 per cent., the consumer bears a total gross profit burden of only 22.3 per cent., or less than half the higher expense of distribution. To be sure, this retailer getting 27.9 per cent. may give more service, such as delivery, and the like, than does the low-profit dealer. But it is not optional with the working man to forego this service and get a lower price at these particular stores, for the prices are usually uniform to all, with or without service. So it may happen that some working men are paying 45.1 per cent. on the retail price for bringing their foods from primary markets, while others are paying only 22.3 per cent.

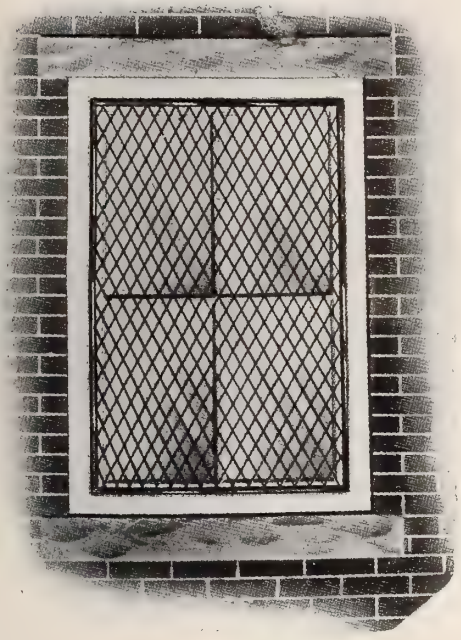
Perhaps it would be fair to say that of all family supplies, including foods, the amount paid by the workman-consumer for both wholesale and retail merchandising would range from 30 to 40 per cent. of the retail price. When it is remembered that something like two-thirds of the workmen's wages are paid for such supplies, it would seem that the task of reducing the cost of distribution should not be given up until the utmost efforts have been made.

Make Purveying of Food to Employees a Concession

The writer wishes to recommend a plan which he believes will go a long way toward solving the problem. This plan consists simply of treating the business of purveying foods to the employees as a concession, and leasing the privilege to the competent and resourceful dealer who would perform the service under proper stipulations at the lowest average gross profit between the quotations in primary markets and the retail price. The successful bidder should comply with clearly stated conditions as to the service he is to perform, and his books should be carefully audited under the supervision of a committee of employees and employer, say, monthly or quarterly to see that such prices were charged as would average only the gross profit stipulated.

Bidders should be large enough dealers to perform practically their own jobbing service as well as retailing, know goods, values and sources. Prices should be at the counter and not delivered to the homes, a separate charge being made for delivery.

Industrial companies should give free store rent and perhaps even a bonus in order that the retail prices made possible



Wire Window Guards

Wire Machinery Guards

Wire Partitions—for Tool-rooms and Stock-rooms

Wire Screens

Wire Cloth

Heavy Wire Baskets

C. H. JOHNSON & SONS, LTD.
Wire Works: St. Henry, Montreal

Dominion Copper Products Company, Limited

Manufacturers of

COPPER AND BRASS

Seamless Tubes, Sheets and Strips in all Commercial Sizes

Office and Works: LACHINE, Que., Canada

P.O. Address: MONTREAL, Que. Cable Address: "Domcopper."

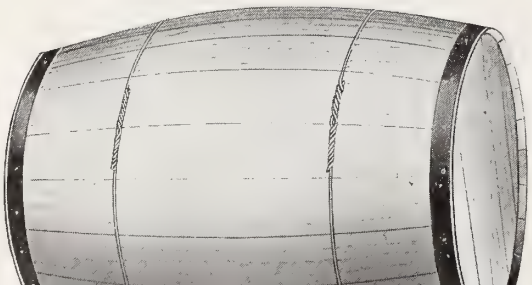


W. C. Macdonald, Reg'd

Incorporated

MONTREAL - CANADA

LAIDLAW HOOPS



Our Brainard Beaded Edge Hoop for head, and our Wire Hoop for bilge. No waste, cheap as wood, much cleaner to use, and a better barrel. Get particulars.

Bale-Ties, Nails and Wire, all sizes, any finish and for all purposes.

The Laidlaw Bale-Tie Co., Ltd.

Wire Manufacturers

HAMILTON - ONTARIO

A. T. DIGGINS, Stair Bldg., Toronto, Ont.
H. E. O. BULL, Montreal, Que.
HARRY F. MOULDEN, Winnipeg, Man.

by such an arrangement would be enough lower than prices current in competing stores to insure practically the whole trade of the employees. This is very essential for, to insure the lowest bid of responsible dealers, they must be assured a large minimum trade. Conditions should be such as to make the concession attractive to responsible bidders, and to insure real competition between bidders.

Verified reports of the auditing committee should be made easily accessible to all customers, the figures being given in the simplest possible manner. Of course, it should be made clear that the employer company makes no profit, but fosters the undertaking as further compensation for its employees.

The report of the bureaus of labor statistics of some states seem to indicate that the prices in some communities are such that consumers must pay double the gross profit that they pay in other communities.

Probable Saving to Employees

It is very probable that this arrangement would enable the employees to buy their supplies from 10 to 15 per cent. lower than they could otherwise get them, and be assured of a quality and purity which would be unobtainable without the kind of supervision which an auditing and inspection committee of the employers and employees could insure. It will be noted that this plan keeps the operation of merchandizing in the hands of trained and experienced merchandizers, thoroughly posted as to qualities, values, sources, and leaves the incentive of a small net profit on the gross turnover to give life and push to the business. The fact is that a large dealer in foods would be satisfied with a net profit of far less than the waste due to weak and inefficient merchandizing. A certain large market known to the writer, doing over 10 millions a year, is conducted at a net profit of not exceeding 2½ per cent. When prices yield more than that percentage they are reduced.

This plan would result in real competition, and in the adoption of economical methods and devices like the self-service or groceteria idea, and would cut out the expenses which are incurred, not to serve the consumer, but to beat competition and profit the dealer.

Of course, a responsible organization of employees would be very desirable, if not almost necessary; and, in fact, the right kind of an organization of employees could take the whole initiative of letting the contract. The furnishing of store room and facilities on the part of the company should be frankly treated as a part compensation to working men, and not as a philanthropic gift handed down in a paternalistic way. Such an arrangement could hardly fail to promote a feeling of responsibility and independence among employees and make for reduction of labor turnover.*

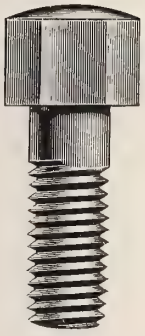
* Since this article was written the writer has learned that two stores of the American Smelting & Refining Co. at Garfield, Utah, and El Paso, Texas, are conducted on this plan so far as restricting the gross profits of the dealers.

Another Branch Plant

United States Chemical Industry Will Locate a Canadian Plant in Walkerton, Ont.

The Kamovar Chemical Co., of Cleveland, Ohio, have decided to establish a Canadian company, and will make their headquarters in Walkerton. Their factory, in which they will manufacture toilet articles, will be located in the Sinclair Block, next to the Rattan Factory. The new industry, in which some local capital will be placed, will eventually employ about 200 hands, and it is expected that operations will start about the middle of November.

"MORROW"



From the Atlantic to the Pacific, and from the north to the south MORROW products are the standard—the kind you have used satisfactorily—strength and accuracy.

Always specify MORROW Set and Cap Screws, MORROW Twist Drills. Ingersoll Files are good files.



Works at Ingersoll, Canada

FEEL SAFE——BE SAFE



Install
Eddy's Fire Pails

The initial expense is a mere trifle when the amount of protection Eddy's Fire Pails give your plant is considered.

Made of Indurated Fibreware, they're moulded all in one piece, not held together by wires or hoops.

They can't leak, rust or fall apart. Acids won't corrode them.

They're on the job twenty-four hours every day of the year, ever ready for the hurry call.

Your dealer probably sells them. If he doesn't, write to us direct.

The E. B. Eddy Co. Limited

HULL - - - CANADA

ESTABLISHED 1850

DID YOU EVER NOTICE

that jarring, grinding noise in your machine shop caused by the metal gears?

Wouldn't you like to stop that noise? You can do it by using

NEW PROCESS GEARS
RAWHIDE PINIONS

They last indefinitely too

Ask us about it?

R. GARDNER & SON, LIMITED
Nazareth, Brennan and Dalhousie Streets
MONTREAL

MALLEABLE IRON
CASTINGS

HIGH TENSILE STRENGTH

GALT MALLEABLE IRON CO.
LIMITED
GALT ONTARIO

BRITISH COLUMBIA'S MINERALS

The mineral production of the province for 1918 was the largest of any previous year with the exception of 1916, when it reached $42,290,462, and when the copper production was the highest on record, being nearly 4,000,000 pounds greater than for 1918.

By E. A. Haggen.

(From the "Vancouver Province.")

The annual report of the Minister of Mines for British Columbia for 1918 has been issued, and is one of the best yet published. Its value lies mainly in the fact that it represents the first complete year's work by the resident engineers of the mineral survey districts. Comparative figures of mineral production for years 1917 and 1918 are:

	1917.		1918.	
	Quantity.	Value.	Quantity.	Value.
Gold, placer, oz. ...	24,800	$496,000	16,000	$320,000
Gold, lode, oz.	114,523	2,367,190	164,674	3,403,812
Silver oz.	2,929,216	2,265,749	3,498,172	3,215,870
Lead lb.	37,307,465	2,951,020	43,899,661	2,928,107
Copper, lb.	59,007,565	16,038,256	61,483,754	15,143,449
Zinc lb.	41,848,513	3,166,259	41,772,916	2,899,040
Coal, tons, l'g	2,149,975	7,524,913	2,302,245	11,511,225
Coke, tons, l'g.	159,905	959,430	188,967	1,322,769
Miscellaneous	.....	1,241,575	.....	1,038,202
Totals	.....	$37,010,392	.....	$41,782,474

The mineral production for the year 1918 was the largest of any previous year with the exception of 1916, when it reached $42,290,462, and when the copper production was the highest on record, being nearly 4,000,000 pounds greater than for 1918.

The Coast district made the largest production of any district, with a value of $13,827,663, the Cassiar district ranking next with $9,178,441. The figures for other districts are: East Kootenay, $7,259,897; West Kootenay, $6,113,279; Boundary-Yale, $4,961,452; Cariboo, $383,996; Lillooet, $57,746.

The coal mines of Vancouver Island and the copper production of the Britannia mainly account for the excellent figures for the Coast district, but the figures for coal do not represent an increase of tonnage so much as the increase in price, amounting to nearly 50 per cent. over the average of previous years. The Cassiar production mainly comes from the Granby Company's Hidden Creek mine, and the Belmont Surf Inlet gold mine, on Princess Royal Island.

District Production

It is noteworthy that East Kootenay is now a larger producer than West Kootenay, this result being mainly due to the Crow's Nest Pass coal production and the development of the Sullivan mine as the world's largest silver-lead-zinc mine.

The Boundary district, which used to lead by long odds, has now dropped to fifth place, owing to the Canada Copper Corporation closing down its Greenwood mines, and the Granby Company's Phoenix mines approaching exhaustion. The principal producer in that district after the closing down of

CANADIAN COLLAPSIBLE TUBE CO., Limited
MANUFACTURERS OF
"Premier" Pure Tin, Plain and Decorated Collapsible Tubes
121 RICHMOND ST. WEST - - - TORONTO



XXX GENUINE ARCTIC METAL



IS

The Best Babbitt Manufactured

FOR

Bearings that carry extraordinary heavy loads

SPECIALLY ADAPTED FOR

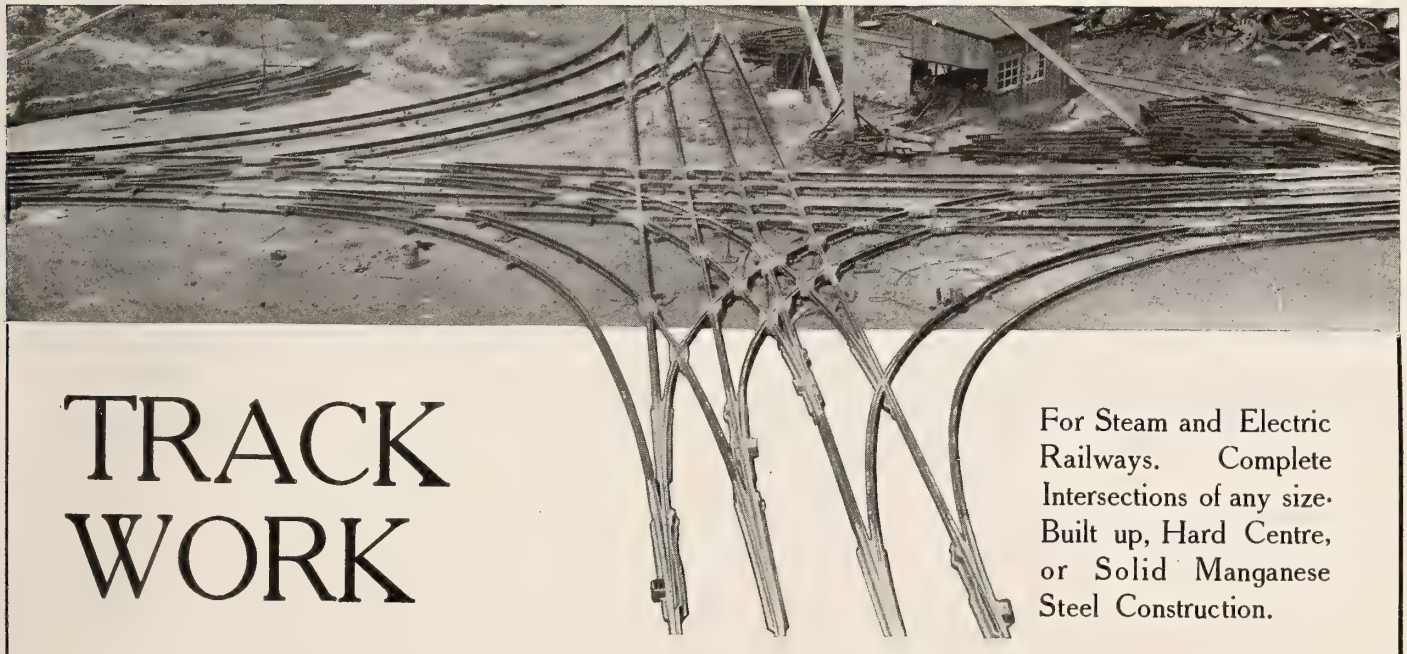
Marine and Automobile Engines

Always runs cool



Tallman Brass & Metal Limited
HAMILTON, ONT.





TRACK WORK

For Steam and Electric Railways. Complete Intersections of any size. Built up, Hard Centre, or Solid Manganese Steel Construction.

CANADIAN STEEL FOUNDRIES, LIMITED

TRANSPORTATION BUILDING, MONTREAL



PUT YOUR PROBLEM UP TO US



We are specialists in building locomotives. We build all types and sizes, also all kinds of repair parts for locomotives and tenders.

Our experience puts us in a position to give you expert advice as to what particular type and size of locomotive is best suited to your needs.

Put your locomotive problem up to us.

MONTREAL LOCOMOTIVE WORKS, LIMITED
DOMINION EXPRESS BUILDING MONTREAL, CANADA

Phoenix will be the Hedley Gold Mining Company's Nickel Plate mine, whose output averages about $750,000 a year.

The placer gold production for 1918 was the lowest in sixty years, and shows how this once prominent source of gold production is steadily disappearing. Ninety per cent. of the placer gold production is derived from hydraulic mining.

The increase in lode gold was due to the Surf Inlet mine being brought into production with an output of aroun $1,000,000 a year. Rossland produced about 10,000 oz. more than in 1917; the Coast district about 1,800 oz. more, due to the greater production at the Britannia mine; and Nelson district showed an increase of 4,600 oz., due to the increased production of the Yankee Girl mine at Ymir.

Silver Output

Slocan was the largest producer of silver, accounting for 1,873,236 oz. of the total production of 3,498,172 oz. Skeena mining division ranked second, with 416,616 oz., almost entirely as a by-product from the ores treated at the Granby Company's smelter at Anyox. Other districts produced as follows: Fort Steele, 261,497 oz.; Ainsworth, 228,699 oz.; Boundary-Yale, 228,561 oz.; Nelson, 136,738 oz.; Southern Coast, 116,425 oz.; Windermere-Golden, 91,784 oz.; Omineca, 84,125 oz.; Trail, 47,203 oz.

The Slocan production exceeded that of the previous year by 325,660 ounces, the largest produced being the Surprise, followed by the Queen Bess and Standard. Half of the production of the Boundary district came from the Granby Company's Phoenix mines, other producers being the Mother Lode mine of the Canada Copper Corporation, the Sally and the Union.

The production of the southern coast district was mainly from the Britannia mine, and from the Omineca, from the Silver Standard mine at Hazelton. About three-fourths of the silver production is derived from the silver-lead mines, and the balance as a by-product of copper ores.

The lead production was greater than 1917 by 6,592,196 pounds, but owing to the lower prices realized, $22,913 less The producing districts were, in order of quantity: Fort Steele, 18,695,565; Slocan, 14,575,379; Ainsworth, 6,106,262; Windermere-Golden, 2,659,210; Nelson, 1,611,166.

Of the Fort Steele production, 860,000 pounds came from the North Star, and the balance, nearly all, from the Sullivan mine. The Queen Bess was the heaviest producer in the Slocan, and was followed by the Surprise, Van Roi, Galena Farm and Standard. In Ainsworth mining division the Florence was the largest producer, with an output of 2,500,000 pounds, followed by the Blue Bell with about 1,300,000 pounds; Highland and Cork-Province with about 600,000 pounds each.

The production of Nelson mining division was almost entirely from the Emerald mine. In the Windermere-Golden section the Paradise mine produced about 1,800,000 pounds of lead, and the Couverapee, at Field, about 800,000 pounds.

Copper is King

Since 1905, copper has been the principal metal produced, and for the past few years its production has exceeded that of all the other metals put together. The production for 1918 was the largest on record with the exception of 1916. The production for 1918 was 2,476,189 pounds more than for the previous year, but owing to the drop in price it was valued at $894,807 less. Skeena mining division produced 30,190,606 pounds, nearly half of the total output of copper, this being from the Granby Company's Hidden Creek mine. Other districts produced as folows:

Southern Coast, 18,475,013 pounds; Boundary-Yale, 9,940,125 pounds; Trail, 1,654,356 pounds; Omineca, 643,843 pounds. The production of the Southern Coast was mainly from the Britannia mine, with 17,548,127 pounds, an increase of 1,767,297 pounds over the previous year. The Marble Bay mine pro-

Every Member of Our Organization is an Active Worker, co-operating to produce Results

Results mean Satisfied Owners

JOHN V. GRAY CONSTRUCTION CO., LTD.
GENERAL CONTRACTORS
625 Confederation Life Building - - - - TORONTO, ONT.

ARE YOUR STEAM PIPES INSULATED?

IF NOT YOU ARE BURNING MONEY

A GOOD COVERING pays for itself in one Season, and is a revenue producer indefinitely. The Best is the Cheapest **WE HAVE IT**

EUREKA MINERAL WOOL & ASBESTOS COMPANY
118 ADELAIDE STREET WEST, TORONTO, ONTARIO

JULIUS COHEN & JOSEPHY

Foreign Domestic **WOOL** *Noils, Wastes and Shoddy*

Also operating THE YORKSHIRE WOOL STOCK MILLS, ALMONTE, ONT.
Manufacturers of Pulled and Carded Shoddies

H. V. ANDREWS Canadian Representative **13 Church St., Toronto**

ELECTRIC STEEL CASTINGS

WE CAN SUPPLY

Carbon Manganese, Alloy, Steel Castings Forging Ingots, Etc.

Write for prices and particulars

The Electric Steel and Metals Company, Limited
WELLAND, ONTARIO

Shurly & Derrett
Limited
TORONTO



Manufacturers of
TWINES
Mill and Spindle
Binding, Etc., Etc.



"DOMINION"
COTTON AND WOOL WASTE AND COTTON WIPERS, WASHED AND STERILIZED

A WASTE FOR EVERY USE

6 Grades White Cotton Wiping Waste
5 Grades Colored Cotton Wiping Waste
4 Grades Wool Packing Waste
3 Grades Cotton Wipers, Washed and Sterilized

Samples with Prices on Request

Scythes & Company Limited
Montreal TORONTO Winnipeg

duced 624,442 pounds. The Boundary-Yale production was mainly from the Granby Company's Phoenix mines, which accounted for 7,347,273 pounds, or double that of previous years. Canada Copper Corporation produced 1,832,382 pounds. For years the Boundary district was the principal producer, but with the closing down of the Greenwood and Grand Forks smelters its days of mining prosperity have passed for the present. It is worthy of note that eighty per cent. of the copper production is now from Coast mines.

Zinc Production

The production of zinc was 75,597 pounds less than for previous year. Fort Steele produced about two-thirds of the total, the figures for the various districts being: Fort Steele, 26,704,806 pounds; Slocan, 14,107,682 pounds; Ainsworth, 640,991 pounds; Omineca, 313,112 pounds. The Fort Steele production was entirely from the Sullivan mine. The Standard was the heaviest shipper in Slocan with a production of 7,000,000 pounds, which, however, was 3,000,000 pounds less than previous year. The next largest producers were the Surprise, Lucky Jim and Galena Farm. Ainsworth produced only two-thirds the amount of previous year. The Omineca production came from the Silver Standard mine at Hazelton.

Iron—Bog iron ore was shipped from Mons on the P. G. E. Railway, to the Irondale plant at Washington, and averaged 40 to 50 per cent. iron, but was high in phosphorus. Magnetite ore was shipped from Texada Island.

Arsenic—The arsenic production was doubled from $20,000 in 1917, to $40,000 in 1918, being entirely the output of the Nickel Plate mine at Hedley, and treated at Tacoma smelter.

Molybdenite—The only shippers were the Hazelton View, at Hazelton, which shipped a carload of ore to Ottawa, and the Golconda, in Osoyoos mining division.

Chromite—Eight hundred tons of chromite were shipped from the Mastodon claim at Grand Forks, and a deposit opened at Scottie Creek, near Clinton.

Manganese—The Curle mine at Kaslo shipped fifteen carloads of manganese ore, and large deposits of high-grade ore were discovered at Cowichan Lake.

Fluorspar—A total of 100 tons were shipped from the Rock Candy mine at Grand Forks mining division, this mineral being used by the Trail smelter in the manufacture of hydrofluoric acid, used in the lead refinery.

Epsom Salts—Epsom salts were shipped from Spotted Lake, Osoyoos mining division, and 170 tons from Clinton.

The 1918 Coal Figures

The coal production was 180,009 tons over the previous year, and was the largest production since 1912. A total of 276,479 tons were made into coke. Vancouver Island was the largest producer, with 1,666,211 tons. Crow's Nest produced 732,864 tons; Nicola-Similkameen, 179,179 tons, and Omineca 470 tons. The Canadian Collieries, Limited, was the largest producer, mining 30.7 per cent. of the total. The Canadian Western Fuel Company was the second largest producer, with 28.4 per cent. of the total. The Crow's Nest Pass Coal Company mined 23.6 per cent. of the total. The following was the production of the various collieries:

	Tons.
Canadian Collieries	791,830
Canadian Western Fuel Co.	731,922
Crow's Nest Pass Coal Co.	608,875
Corbin Coal and Coke Co.	123,989
Middlesboro Collieries, Limited	101,559
Pacific Coast Coal Mines	82,629
Nanoose Collieries, Limited	28,804
Fleming Coal Co., Limited	33,203
Granby Consolidated M. S. & P.	16,958
Princeton Coal and Land Co.	38,673
B. C. Coal Mining Co.	14,068
Coalmont Collieries, Limited	5,744
Telkwa Collieries, Limited	470

THE NICHOLS CHEMICAL COMPANY, LIMITED

MANUFACTURING CHEMISTS

HEAD OFFICE: 222 ST. JAMES STREET, MONTREAL

Branch Office—120 Mill Street, Toronto

WORKS: Capelton, Que., Sulphide, Ont., Barnet, B.C. WAREHOUSES: Montreal, Toronto

Sulphuric Acid	Sulphate Soda	Glauber's Salt	Bleaching Powder
Muriatic Acid	Sulphide Soda	Blue Vitriol	Tri-Sodium Phosphate
Nitric Acid	Hypo-Sulphite Soda	Sulphate Alumina	Ammonia
Hydrofluoric Acid	Bi-Sulphite Soda	Papermaker's Alum	Salt Cake
Mixed Acid	Phosphate Soda	Caustic Soda	Tin Crystals

Agents for Baker & Adamson's Chemically Pure Acids and Chemicals

AGENTS FOR CANADIAN SALT CO.—"WINDSOR" BRAND CAUSTIC SODA & BLEACHING POWDER

SMALL GREY IRON CASTINGS

BY SPECIAL PROCESS

Giving a Smooth, High-grade Casting for Enameling and Nickel Plating

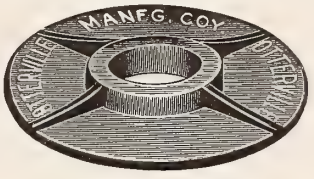
Rubber Manufacturer's Equipment, Cast and Machined

CANADIAN-RUMELY CO., Limited

48 Abell Street - Toronto, Ont.

MALLEABLE IRON WASHERS

STANDARD PATTERNS



Cost less than Cast Iron Washers

Let us quote you prices

Otterville Mfg. Co. Limited

Otterville, Ont.

Steel Bridges

Railway and Highway Truss, Girder and Beam Spans of all types.



THE MARITIME BRIDGE COMPANY, LIMITED - New Glasgow, Nova Scotia

MR. CANADIAN MANUFACTURER!

Why Buy in United States

SILICA BRICK, COKE, STEAM COAL ?

When Canadian Materials are Available at Lower Prices

STINSON-REEB BUILDERS' SUPPLY CO., LTD., MONTREAL

Made in Canada



From British Stock

"GENUINE OAK"

LEATHER BELTING

"D.K."

BALATA BELTING

Guaranteed to Give Satisfaction

D. K. McLAREN LIMITED

TORONTO MONTREAL ST. JOHN, N.B.
849 Beatty Street, VANCOUVER

LEATHER BELTING

Made in Canada

J. L. Goodhue & Co., Limited
DANVILLE, QUEBEC

Manufacturers of
SUPERIOR QUALITY LEATHER BELTING AND LACE LEATHER

QUALITY
Not Price Our Aim

Canadian Manufacturers SHOULD USE Canadian Belting

Winnipeg Agents:
BISSETT & WEBB, Limited
126 Lombard St.
Winnipeg, Man.

Vancouver Agents:
FLECK BROS., Limited
54 Cordova Street East
Vancouver, B.C.

Montreal Agents
STANDARD MACHINERY & SUPPLIES, Ltd.
260 ST. JAMES ST., MONTREAL

The year added two new collieries to the list of producers, namely, the Granby Company's mine at Cassidy, and the Telkwa Mine at Telkwa. Of the production of the coast collieries, amounting to 1,845,860 tons, 933,296 tons, or nearly half, were sold to local markets, and 469,020 tons exported. The local consumption showed an increase of 8.3 per cent. probably due to the substitution of coal for fuel oil in heating plants. In the Crow's Nest Mines, on the other hand, 80 per cent. of the output is exported ot the United States.

The coke production was 29,062 tons more than for the previous year. Of the coke output, 24,887 tons was from the ovens of the Canadian Collieries, Limited, at Union Bay, and 164,080 tons from the coking plants of the Crow's Nest Pass Coal Co. The whole of the coke was sold to the local smelters and foundries, the output of the Canadian Collieries being taken by the Granby Company for its Anyox smelter. Now that this company is mining its own coal and has a by-product coking plant in operation at Anyox, it is probable the Union Bay coke ovens will again be closed down until the Ladysmith Smelter reopens. This will leave all the more coal available to meet the home demand for fuel.

Building Materials

The demand for building materials was the lowest for some years. The Clayburn Company was the principal manufacturer of clay products, the output of which amounted to about $250,000. Lime production for building and fertilizer purposes fell from $102,223 in 1917, to $28,536 for last year. On the other hand, quarried for smelter flux represented a value of $100,000, used in the furnaces of the Granby and Consolidated Mining and Smelting companies. Cement was manufactured to the value of about $300,000, by the Vancouver Portland Cement Company, Limited, at Tod Inlet.

Shipping Mines

There were 175 shipping mines on the list for 1918, and these produced 2,892,849 tons of ore, or about 130,000 tons more than for 1917, though the production was about 300,000 tons less than for 1916.

The number of men employed in the metal mines was 4,148, and in the coal mines 5,427. The tonnage of coal produced per man in the Coast coal mines was 649, and in the Crow's Nest mines 900 tons.

A notable improvement in mine labor conditions is the reduction in accidents in the coal mines, the ratio of accidents last year being the lowest in ten years.

Launch Large Tonnage

Launchings in British Columbia this Year will Exceed Last Year

For the first half of 1919, 28 ships were launched in British Columbia, with a total tonnage of 75,500 tons. Of the launchings, two were 8,800-ton steel vessels from the Coughlan yards, Vancouver; two 4,300-ton steel vessels from the Wallace yards, North Vancouver; 7 wooden vessels from the Lyall yards, North Vancouver, and 8 of the 3,000-ton wooden steamers from the Foundation yards, Victoria, in addition to the completion of the contract at the latter's yards in launching all the 1,500-ton class boats. Other companies launching 1,500-ton wooden steamers were the New Westminster, Pacific Construction Co., Northern Construction Co., and the Cholberg yards. It is expected that the total tonnage launched during the year will exceed 165,000 tons, as compared with 155,600 in 1918.



Cut of 60-inch "Extra" Double Belt
Made by The J. C. McLaren Belting Co., Limited.

WE ARE HEADQUARTERS FOR ALL KINDS OF

BELTING
LACE LEATHER
CARD CLOTHING
REEDS AND
GENERAL
MILL SUPPLIES

ABSOLUTE SATISFACTION GUARANTEED

The J. C. McLaren Belting Co., Limited

ESTABLISHED 1856

Head Office and Factory
MONTREAL, Que.

Branches:
50 COLBORNE ST., TORONTO
80 LOMBARD ST., WINNIPEG

633-661
EASTERN
AVENUE



ESTABLISHED 1852

The Largest Patent Leather Manufacturers in the British Empire

A. R. CLARKE & CO., LIMITED

MONTREAL TORONTO QUEBEC



With our greatly increased capacity we need your business.

A wheel for every purpose and satisfaction guaranteed.

Let us send our new Catalog and quote prices.

Dominion Abrasive Wheel Co., Ltd.

MIMICO. ONTARIO, CANADA.

DU PONT CANADIAN INDUSTRIES

LUXAR

Best for Car Tops

HERE is a top-material for your car---***LUXAR*** which has the constitution to successfully withstand the vagaries and extremes of our Canadian climate.

It is a single and double texture, rubber-coated, tough, pliant material---of highest quality. It will neither crack, split under constant folding, or show the effects of heat or cold or the strain of travel.

Is your car in need of a new top? Insist on its being made of ***LUXAR***. Specify ***LUXAR*** and get the maximum of service and comfort.

Write us for literature and samples.

Du Pont Fabrikoid Co.

Sales Office, 63 Bay Street

TORONTO

DU PONT

NEW SOURCES OF LEATHER SUPPLY

How the shortage of supply of hides of land animals may be made up by having recourse to the skins of sea creatures. The most significant development in the art of converting the skins of aquatic animals into leathers of excellent grades is that now being pursued in dealing with the hides of sharks, rays, dogfish, etc.

By Robert G. Skerrett.

(From the "Scientific American.")

Heretofore, with minor exceptions, we have depended upon the skins and hides of land animals for the great bulk of our leather stocks. To-day, because of the reflexes of the war, and owing to diminished if not totally destroyed herds of cattle, sheep, goats, etc., we, with other peoples, are face to face with an unprecedented shortage of leathers. And, what is equally disquieting, this scarcity is going to lay a tax upon all of us.

The pinch upon our purses will come home most directly through the added prices that are certainly going to be charged for our footwear next fall and winter. The average pair of shoes will cost us something like a dollar more if the experts of the leather industry be correct in their prophecy. That is to say, the nation as a whole will have to hand out for its boots and shoes a matter of $100,000,000 additional to cover its feet in the course of the next six months without gaining anything in the way of improved articles.

We are accustomed to boast of our self-sufficiency when it comes to raw materials, especially. It will, therefore, probably shock many good Americans to learn that the United States commonly relies upon the outside world for nearly half of its cattle hides, for well-nigh all of its goat skins, and likewise for a very large part of the pelts of sheep and calves consumed here. From an industrial point of view, the present leather shortage and outlook become even more serious when we recognize the fact that we have grown to be the leading nation among those manufacturing boots and shoes. What are we going to do to make up the existing scarcity and to insure our factories against shut-down or woefully diminished output?

Many Uses for Leather

During 1917 we imported 700,000,000 pounds of hides and skins, valued at the ports of entry at $216,000,000. Since then, there has been a notable decrease in the quantities of leather stocks brought into the United States, and this falling off has reached hundreds of millions of pounds. Only a part of the leather worked up here annually goes into footwear. Much of it is demanded by the upholsterer; great quantities of it are used in the making of harness and saddlery; the glove trade levies a big toll; and then its employment is varied in the fabrication of travelling bags, handbags, pocket-books, and an endless multiplicity of other useful as well as ornamental articles. In the field of mechanics, leather meets with peculiar fitness numerous needs, and the whirring wheels of our factories and other services calling for power transmission would be at a loss if a sufficiency of leather belting were not available. Finally, the automobile and aircraft have brought to the fore the advantages of leather in providing especially suitable garments.

Manifestly, the demands for leather stocks are certainly going to increase rather than to diminish; and if the herds, the droves, and the flocks of land animals are inadequate, from what other sources can we obtain skins susceptible of being tanned and made fit to meet these manifold services? Happily for us the period of strife has stimulated research and brought about material achievements which otherwise

HEAVY CHEMICALS AND DYESTUFFS

The Grasselli Chemical Co.
LIMITED

Manufacturing Chemists

Toronto, Ontario

Branch Office: MONTREAL, QUE. Works: HAMILTON, ONT.

H. & D. Corrugated and Solid Fibre Board



CONTAINERS will save on your transportation charges, save your floor space, cut down packing expenses, and give you positive protection against loss from damage and pilfering. Write for prices and samples.

The Hinde & Dauch Paper Co. of Canada, Limited, Toronto, Canada



Forgings, Stampings or Pressed Steel Parts

AN attractive catalogue showing the facilities this Company has for producing **Forgings** and **Sheet Metal Parts**—particularly in large quantities, sent on request.

Dominion Forge & Stamping Co., Ltd.
WALKERVILLE, ONT.

MACDONALD MFG. CO., Limited
Toronto - Canada

Manufacturers of
PLAIN and LITHOGRAPHED CONTAINERS
for

Jam	Lard
Fruit	Oil
Vegetables	Paint
Meat	Varnish
Syrup	Tobacco
Butter	Talcum
Biscuits	Tea

Grocers' Sundries
Druggists' Sundries

Also Toys, Novelties, Tags and Advertising Signs

Well packed is half sold
Make your containers advertise you

Office and Works :
145 Spadina Avenue

might still be remote potentialities. Quite two years ago, the Department of Commerce urged the experts of the leather industry to see what they could do here towards successfully tanning the skins of a number of marine mammals and fish.

Previously, the skins of some domestic porpoises had been tanned but not in sufficient measure to loom at all conspicuous in the volume of the native leather industry. There were two reasons for this. First, the catching of the porpoise was an infrequent occupation and we had little if any trouble in securing from long-established sources the desired amounts of leather stocks; and, next, porpoise leather for boots or shoes found only a limited use owing largely to the fishy odor that clung to the finished product. The more common employment of the leather was in the form of shoestrings. In England, on the other hand, for a good long time, the tanners have been producing a fine grade of so-called porpoise leather from the skin of the beluga or white whale, which attains a length of 18 feet or more and will average in girth from 10 to 12 feet. This leather has great tensile strength and is remarkably well adapted to the making of machinery belts; and because it keeps its shape under varying stresses it is admirable for working into shoes. The beluga abounds in the waters contiguous to the northern coasts of this continent.

A Concern that has Succeeded

The most significant development in the art of converting the skins of aquatic creatures into leathers of excellent grades is that now being pursued upon a commercial scale in dealing with the hides of sharks, rays, dogfish, blackfish, etc. Despite the fact that many firms, encouraged by the United States Department of Commerce, failed to secure satisfactory results, one New York concern has solved the difficulty that has hitherto baffled the tanner. One of the early operations in preparing the skin of the aquatic animal for tanning is that of soaking the hide in a lime solution. If this is not done with extreme care and with due regard to the natural differences peculiar to the fish skin the resultant product is so spongy and lacking in strength that it has practically no market value. This stage of the process has pretty generally ruined the skin and made further work upon it quite useless. To-day, the secret of a correct lime bath has been discovered, and, similarly, some other phases incidental to the manipulation of the skins have been mastered. Among these is a degreasing treatment which effectually removes the fishy odor.

The adaptation of the shark skin to the general purposes of the leather worker has presented distinctive difficulties—so, too, has the skin of the ray and the dogfish—because of the horny, tuberculous exterior which is frequently so hard that it can be ground down only by means of abrasive belts or wheels. In fact, this shagreen has been extensively employed by cabinet-makers, ivory workers, metal workers, etc., in lieu of emery cloth and sand paper. The question of making shark skins available for leather has, therefore, rested in part upon devising ways to get rid of the shagreen. The results as a rule have been anything but satisfactory, simply because grinding away what might be called the superficial hard material still left the supporting parts or bonds imbedded in the leather, to just that extent stiffening it, greatly hampering cutting and sewing, and yielding a product which had numerous drawbacks.

Thanks to recourse to chemistry, the shagreen can be completely separated from the underlying skin and yet leave the hide beautifully marked with its characteristic "grain." So dressed, the leather lends itself to the manufacture of bags, belts, card cases and other articles where an ornamental surface is desired. With this exterior removed, either the upper layer of the skin or the underlying "splits" can be

DOMINION BRIDGE CO., LIMITED

MONTREAL, P.Q.

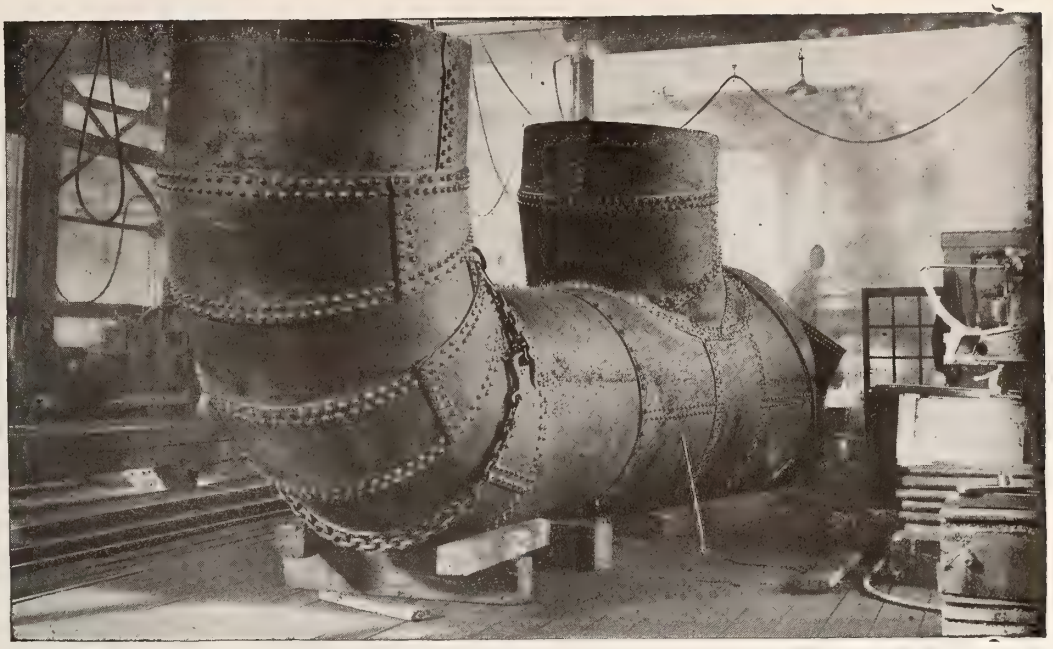
Engineers, Manufacturers and Erectors of

Paper Making Machinery

Steel Structures

Railway and Highway Bridges

Electric and Hand Power Travelling Cranes



Penstocks

Tank and Plate Work

Marine Engines and Boilers

Coal and Ore Handling Machinery

Lift Locks and Gates

Head Office and Works: LACHINE, P.Q., CANADA P.O. Address: MONTREAL, P.Q.
Cable Address: DOMINION Branch Office and Works: TORONTO, OTTAWA, WINNIPEG
Sales Offices: MONTREAL, TORONTO, OTTAWA, WINNIPEG, EDMONTON, REGINA, VANCOUVER
LARGE STOCK OF STRUCTURAL MATERIAL AT ALL PLANTS

QUALITY AND SERVICE

Acetic Acid Refined
Acetic Acid Crude
Acetic Anhydride
Acetate of Soda
Acetate of Lime

Acetone Pure
Acetone Alcohol
Acetone Oils
Charcoal
Columnian Spirits
Wood Alcohol

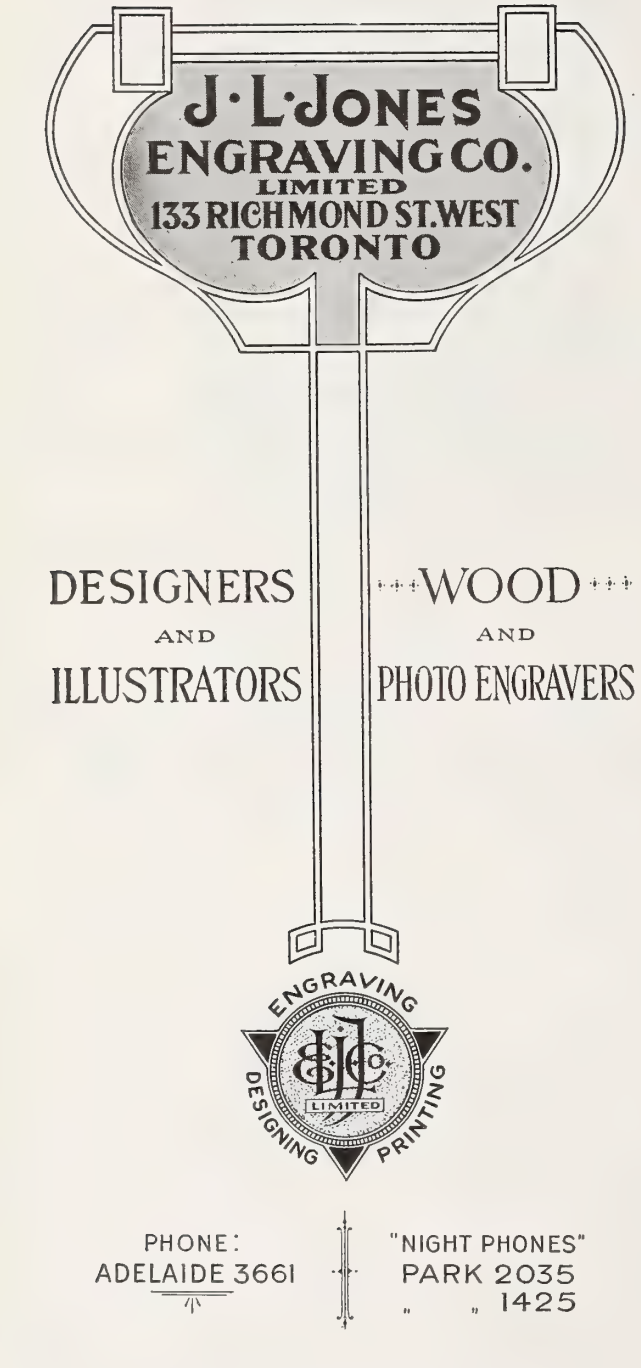
Creosote Oils
Formaldehyde
Methyl Acetate
Methyl Alcohol
Methyl Alcohol Pure

Made in Canada

Standard Chemical, Iron and Lumber Co.

OF CANADA, LIMITED

MONTREAL TORONTO WINNIPEG



dressed for shoe stock—including the heavy material for soles. The leather will take a beautiful finish and is notably durable. From a 500-pound shark it is possible to obtain ten square feet of leather from the hide, and the stomach furnishes a raw material that will yield a leather which is soft and strong and looks not unlike glazed kid when ready for the market.

The ray or devil fish will frequently provide a skin, when tanned, having an area of 100 square feet; and the sawfish is also a potentially abundant source of leather stock. The dogfish, being comparatively small, is not as individually profitable as the full-grown shark, and yet its hide is well worth tanning. The porpoise, depending upon its size, will give a skin susceptible of producing anywhere from 10 to 20-odd square feet of leather. Not only that, but from this skin can be taken a sturdy upper layer of grain of very fine quality and then two underlying "splits"—the first of these being thick and strong enough for a good grade of heavy shoes, while the second "split" is of the character of a thick suede. The intestines of the porpoise make leathers for which there are many uses. The skin of the blackfish and likewise the skin and stomach of the whale lend themselves to tanning, and from these several sources leathers of fine qualities can be secured.

Utilization of Other Parts.

But this whole question of "sea leathers" would make but a moderate appeal to enterprise and capital if it were not possible to utilize other parts of these aquatic creatures. From the livers of the shark an oil is obtainable, also from the livers of the dogfish, which is said to have much of the medicinal properties which characterize cod liver oil, and, besides, the oil is in demand for the manufacture of soaps, for mixing paints, and for the treatment of some leathers. A 500-pound shark will give an average of from 10 to 15 gallons of liver oil, which is easily marketable at fifty cents a gallon. The dorsal fins, when dried, bring $2.50 apiece among Oriental epicures. The teeth sell readily for five cents each to manufacturing jewelers who work them into ornaments of one kind or another. The flesh of the shark is said to be decidedly palatable, and the Bureau of Fisheries has published some thirty different recipes for fresh shark, smoked shark, salt shark, and canned shark. In common with the meat of other sea creatures, the flesh of the shark can be converted into fertilizer or dried and ground for chicken and cattle food. As a fertilizer the stuff is rich in ammonia and phosphoric acid. Sharks in our southern waters range from 400 pounds to 2,000 pounds in weight, while the devil fish or ray will frequently tip the scales at 3,000 pounds.

Porpoise Yields Oil

The porpoise, besides furnishing skins that can be tanned, yields three grades of oil—i.e., body, head, and jaw-pan. The latter is especially valuable as a lubricant for watches and other fine mechanisms and, to-day, fetches quite $50 a gallon. Certain parts of the skins of some of these aquatic animals—parts that are not worth tanning—contain fully 90 per cent. of glue. Likewise, from the blood of some of these creatures is to be had the basic material for a superior kind of waterproof glue such, for instance, as is desired in the built-up stock now used in making airplane propellers and other wooden parts of the flying machine. From the intestines that cannot be worked into leather it is possible to get the gut for string instrumens, tennis rackets, etc., and sausage casings, parchment, stopper-covers, glue, and other marketable commodities. The point is, nothing need go to waste; and, at the same time, an inexhaustible source of leather stock is thus made available which heretofore has been almost entirely neglected.

Fellow Manufacturers



We Make in Canada
Lead Pipe
Sheet Lead
Wire Solder
Bar Solder
Ribbon Solder

BABBITT METALS
for all requirements

INGOT METALS
Copper Tin Lead
Aluminum and Brass

EVERYTHING
IN METALS

Wherever you are
we can serve you

The Canada Metal Co. Limited
TORONTO MONTREAL WINNIPEG VANCOUVER

PRESSES

Made in Canada

HYDRAULIC PRESSES, PUMPS
AND ACCUMULATORS

Forging, Nosing and Marking Presses for all Size Shells
Presses for General Purposes

WILLIAM R. PERRIN, Limited TORONTO CANADA

SPECIAL MACHINERY

Built to Order

Also gauges, punches, jigs, dies, small tools, etc.
Prompt Service.
Moderate cost.
Send Blueprints for estimate.

Brown Engineering Corporation
LIMITED, TORONTO
415-419 King St., W. Tel. Adel. 425

MADE IN BR-EN-CO CANADA

TAR PRODUCTS

Dominion Tar and Chemical Company

TAR DISTILLERIES:

Sault Ste. Marie, Ont. **Sydney, N.S.**

Address all communications to Sales Office,
400 McKinnon Bldg., Toronto, Ont.

Black Varnish
Creosote Oils
Wood Preservative Oils
Hard Coal-Tar Pitch

Naphthalene
Disinfectants
Crude Carbolic Acids

Phenols and Cresols
Paint Naphthas
Crude Naphthas
Shingle Stain Oils

It's Their Time But It's Your Money

The moment one of your men continues working after a file becomes dull, you lose money, because the man will waste more time with the dull file than a new file would cost.

Teach them to turn in a file as soon as it becomes dull and get a new one. And specify the standard Famous Five Files when ordering.



Among the Industries

Under this heading are published items of news of current interest concerning the activities of Canadian manufacturers. Information about changes of interest, enlargement of plants, and plans for future developments are welcome, and are published free of charge, provided they should not be properly classified as advertisements

ALBERTA.

Redcliff.—Plans are completed for the erection of two large additions to the Dominion Glass Co.'s plant here.

BRITISH COLUMBIA.

Beaver Cove.—An addition is planned to the plant of the Beaver Cove Lumber & Pulp Co.

Collingwood.—Announcement has been definitely made regarding the location of the new rubber plant of the Gregory Tire and Rubber Company, which is to be at Collingwood, near Kingsway. It is expected that the plant will employ approximately 50 men and will have an output of 300 tires and 600 inner tubes per day. The concessions offered by the municipality of South Vancouver were ten years' exemption from taxation and water supplied at cost.

Merritt.—Plans were completed and work commenced recently to establish the Nicola Pine Mills, Ltd., in Merritt. It will be remembered that some months ago the splendid plant and yards of the company at Canford were completely destroyed by fire, since which time strenuous efforts have been made by the citizens to have this industry established at Merritt. With this object in view, a joint stock company was formed to purchase the Blair property, situated south of the Coldwater river, between Merritt and Middlesboro, immediately adjoining the city limits.

New Westminster.—The Western Cordage Company has definitely decided to locate a plant in New Westminster, a site having been secured near Sapperton in the industrial area. The machinery has been ordered and when completed the plant will employ eighty to ninety returned men. The industry will be a co-operative concern, organized under the Provincial Government's industrial development scheme.

Port Coquitlam.—Pitt River Shingle Mills plan the erection of a $30,000 mill.

Vancouver.—A $15,000 factory is planned by the Dust Control Co.

A $10,000 factory will be built by the Kennedy Sash and Door Co., Front Street.

A group of local business men, headed by Gordon Jonah, of the Jonah-Piat Co., have formed a company and will erect a woollen mill.

T. H. Laslett will construct a new brick factory at 721 Seymour Street. Estimated cost, $10,000.

A plant which was to have been installed at Vancouver by the Argyll Bute Co., a concern manufacturing "Scotch Snack" products of fish paste, with main plants and offices at Montreal, is to be established at Seattle, according to a statement by W. O. Barber, representative of the company. The site for the plant at Vancouver has been under option and much of the material had been delivered at Vancouver, but work of installation was ordered suspended pending Mr. Barber's trip of inspection to Seattle.

MANITOBA.

Winnipeg.—The Manitoba Bridge & Iron Works are now manufacturing the Anderson grain-saving guards, which, it is claimed, have proven to be very efficient in saving all fallen field crops, including wheat, oats, flax, rye, barley and also timothy and other hay. There are at present over ten thousand sets in use and the sales are increasing.

The Twin City Separator Co., manufacturers of the Bull Dog fanning mills, are at present constructing a three-story brick machine-shop and warehouse building. Manager P. J. Grout states that with recent additions the total floor space of the company will be 124,000 square feet. Their business to date has been the best in the history of the organization, which has shown a record of steady advancement.

The Emerson Manufacturing Company, who have for some time been distributors of the Emerson wild-oats separators, announce that they have taken over the entire production of this separator for the American continent. The Winnipeg concern recently concluded negotiations with W. H. Emerson & Sons, Detroit, Mich., whereby they take over the machinery plant, goodwill, stock and all assets of the American concern. The factory in Detroit has for sixteen years been supplying farmers and elevators all over the United States with this well-known grain cleaner. The Emerson Manufacturing Co., Winnipeg, are at present making large additions to their plant to take care of the expansion. The company will employ about forty hands, which will be added to as production increases.

Additions to their lime plant are being made by the Manitoba Gypsum Co.

The Continental Oil Company, which has operated plants at Winnipeg, Regina, Saskatoon, Calgary, Lethbridge and other Western points, has been taken over by a new firm, the North Star Oil and Refining Company, Limited. The head office will be at Winnipeg.

NEW BRUNSWICK.

Marysville.—Plans of the big dam which is to be constructed on the Nashwaak river, near Marysville, N.B., by the Nashwaak Pulp and Paper Co., of which Hon. N. M. Jones is general manager, have been filed with the Lieut.-Governor of the province in accordance with the provisions of the Act passed at the last session of the New Brunswick legislature. It is understood that the Nashwaak Co. will proceed with the erection of their

STEEL BARS

ROUNDS, SQUARES, FLATS, ANGLES AND SPECIAL SECTIONS FOR AGRICULTURAL IMPLEMENTS

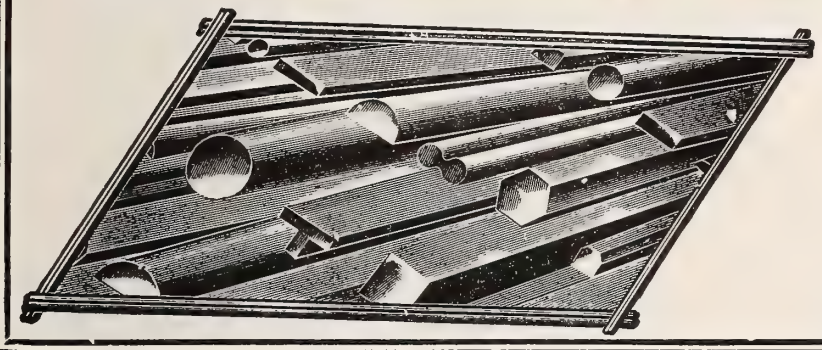
Prompt Shipment from Stock

BURLINGTON STEEL CO., Ltd.

HAMILTON - CANADA

UNION DRAWN STEEL CO., Limited

HAMILTON, ONTARIO



MANUFACTURERS OF

Shafting

Rounds, Flats, Squares and Hexagons

LARGEST STOCK IN CANADA

Get prices before ordering elsewhere.

CANADIAN TUBE & IRON CO., LIMITED

MONTREAL, CANADA

WROUGHT PIPE BLACK AND GALVANIZED 1/8 TO 4 INCH

Thoroughly inspected and tested to 600 lbs. pressure and branded

Ask Your Jobber for

CT Brand

Also BOLTS, NUTS, RIVETS—All Kinds

PRESSED SHIP SPIKES, BLACK AND GALVANIZED—All Sizes

SELLING AGENTS FOR

CANADIAN ROLLING MILLS CO., LIMITED

Bar Iron and Steel

COLONIAL WIRE MFG. CO., LIMITED

Wires, Wire Nails, Wood Screws, etc.

WORKS: LACHINE CANAL MONTREAL, CANADA

MANUFACTURERS OF

STEEL STRUCTURES

OF ALL CLASSES
PARTICULARLY

BUILDINGS
BRIDGES
TANKS

MacKinnon Steel Co., Limited
SHERBROOKE, QUE.

Montreal, Office: 404 New Birks Building



MARVELOUS
is the action of light to increase production and efficiency.

RAMSAY'S
Mill and Factory White

on the walls *and* ceilings *of* your plant will produce efficiency and improve sanitary conditions.

WRITE US

A. RAMSAY & SON COMPANY
Makers of Paints and Varnishes since 1842
TORONTO MONTREAL VANCOUVER

big sulphite pulp plant at Marysville in the near future and will eventually remove the present plant from St. John to Marysville.

Mullin's Brook.—The Hardwood Last Block factory, which was spoken of some time ago as about to be located at Mullin's Brook, York County, N.B., is now being built. The site is about four miles from McGiveny Junction on the Canadian National Railway. The interest behind the enterprise is H. Mobbs, of Kettering, England, said to be the largest maker of last blocks in the world. Between one and two hundred persons will be employed to begin with, and the manufacturers have entered into an agreement with the Nashwaak Pulp & Paper Company for 3,000,000 feet of hardwood lumber.

NOVA SCOTIA.

Sydney.—The plant of the Cape Breton Pulp and Paper Co. at St. Ann's, Victoria County, is very busy at the present time and about three hundred men are employed. The company is looking for additional help. A large new barking drum is being installed. Gangs of men are at work taking out large quantities of pulp wood and making roads in order to facilitate the movements of the motor trucks, which will deliver the product to the pulp mill. Shipments of pulp have been made by steamer to several points in the United States, and it is the intention of the directors to erect eventually a paper mill, which will convert the raw material into the finished product.

The Sydney Foundry and Machine Company of Sydney, N.S., who conduct a large repair business in marine lines, are applying for a site upon which to build a dry dock for this port.

ONTARIO.

Arnprior.—The International Button Co. plan the erection of a $25,000 factory.

Belleville.—A proposition to build a large steel plant in Belleville is now under consideration by the Tivani Steel Co., Ltd. The plant would consist of electric furnaces, rolling mills, merchant bar mills and open hearth furnaces. A similar plant is being considered for Vancouver.

Brantford.—C. H. Hyman & Co., London, have let a contract for a $125,000 four-story reinforced concrete canning factory.

The works of the Kerr & Goodwin Machine Company at Brantford are now turning out one of the new Hoag oil engines manufactured by this company every day. There is good prospect of these engines being made on a large scale very shortly.

The Brantford Piano Case Co. contemplate further extensions to their plant.

Additions to two buildings will be made by the Cockshutt Plow Co., Limited, at a cost of $24,500. Additions to plant are also being made by the Brantford Roofing Co.

Alterations and extension to office building are being made by the Dominion Steel Products Co., Limited.

The Robbins & Myers Co., of Springfield, Ohio, will erect a factory here.

The United Portland Cement Co., Limited, propose to erect a factory at Lafayette, Ont.

Contracts have been let for addition to factory and dye house of the Slingsby Mfg. Co., Limited, and to the factory of the Brantford Computing Scale Co., Limited.

Brockville.—The Brockville Paper Manufacturing Co. will erect a three-story factory on Park Street. Estimated cost, approximately $100,000.

A smelter may be built here by the Consolidated Iron and Steel Corporation, Limited, 20 King St. East, Toronto, recently incorporated with a capital of $8,000,000, and backed by Toronto and Detroit interests.

Cargill.—The woodworking plant of Cargill, Limited, is shut down, due to the shortage of skilled operators. They expect to resume production about the first of the year.

Chatham.—A new three-story brick factory building will be erected immediately by the Gray-Dort Motor Sales Co.

Cobourg.—The Crossen Car Co., Limited, who formerly manufactured a line of sleeping, parlor and passenger cars, etc., have discontinued business. The plant has been completely dismantled.

Collingwood.—An amalgamation has been made with the Collingwood, Ont., steel plant and the Canadian Western Steel Co., Ltd., with rolling mills at two Western points. The new firm has been incorporated in the name of the Canadian Western Steel Corporation, Limited, and it is proposed to start the idle rolling mills at Collingwood and also start up the open hearth furnaces. Construction will begin within a few weeks. This new corporation will have in operation before long three rolling mills, located at Collingwood, Ont., Medicine Hat and Redcliff, Alberta, also a bolt and nut factory at Medicine Hat, which, it is said, will enable them to supply the trade, both East and West.

Cornwall.—The Firestone Tire & Rubber Co., Akron, Ohio, may erect a Canadian branch here.

Fort William.—The Kakabeka Falls Brewing Co., are extending their present buildings to accommodate an additional bottling plant.

Galt.—It is stated that a tin smelting plant is to be located at Galt. The idea is to build one smelter to begin with, to be followed by others as the need arises.

The plant of the Victoria Wheel Works is being equipped to manufacture shafts, poles, and all bent goods required for carriage making.

Goderich.—The Convertible Tractor Corporation of St. Paul, Minn., may erect a Canadian branch at Goderich.

RIDOUT & MAYBEE
Solicitors of Patents
Counsel, Solicitors and Experts in
PATENT SUITS
Agencies in the leading countries of the World.
EDWARD MAYBEE, Mech. Eng. J. F. EDGAR, Counsel
KENT BLDG., YONGE STREET, TORONTO

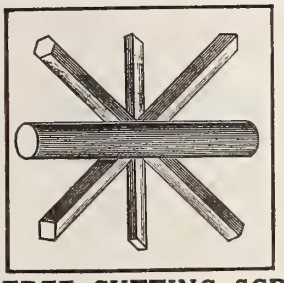


Why import WIRE ROPE when we manufacture your needs?

Ships' Rigging, Hawsers, DREDGE and ELEVATOR ROPES, Etc.

THE DOMINION WIRE ROPE COMPANY, Limited

TORONTO WINNIPEG MONTREAL



COLD DRAWN, TURNED AND POLISHED STEEL

SHAFTING

ROUNDS, SQUARES, HEXAGONS AND FLATS

$\frac{1}{8}$ in. to 6 in. Dia. $\frac{1}{4}$ in. to $2\frac{1}{4}$ in. $\frac{1}{4}$ in. to $2\frac{1}{4}$ in. up to $1\frac{1}{2}$ in. x 3 in.

FREE CUTTING SCREW STOCK PISTON AND PUMP RODS FINISHED KEYS

The CANADIAN DRAWN STEEL CO., Limited

HAMILTON, ONTARIO

THE CANADIAN BRIDGE CO., Limited

WALKERVILLE, ONTARIO

Montreal Office: New Birks Building

MANUFACTURERS

RAILWAY AND HIGHWAY BRIDGES

Locomotive Turn Tables. Roofs, Steel Buildings and Structural Iron Work of all Descriptions

ARMSTRONG WHITWORTH OF CANADA
LIMITED

Montreal,
Toronto,
Hamilton,
Winnipeg



Works: LONGUEUIL, QUE.

Manufacturers in Canada of

Locomotive and Car Wheel Tires

HIGH SPEED and CARBON TOOL STEEL



A Cool Shop in Summer

CANADIAN Down Draft Forges remove smoke, gases and heat from the shop through tile or concrete ducts underground.

There are no troublesome metal pipes to collect dust, obstruct light, take up room, reduce the air space, or that need to be constantly replaced.

"Down Draft" means permanence and a cleaner, cooler shop.

Write for Catalog 108-14

Canadian Blower & Fo ge Co. Ltd.
KITCHENER - ONT.

Toronto Montreal Calgary Vancouver St. John

CANADIAN

Guelph.—The International Malleable Iron Company of Guelph have called for tenders for the construction of a new machine shop and warehouse. The building will be one story in height and will be 189 feet by 120 feet, of concrete and brick, and will cost about $33,000.

The Fried Grills Hat Co. will erect a large addition to their present building, Suffolk Street, to be completed by early spring.

Among recent building permits at Guelph was one for $45,000 for addition to the Partridge Rubber Co.'s factory and one for $100,000 for the new factory of the Northern Rubber Co.

Hamilton.—Tenders will be opened on September 15 for the erection of the $600,000 plant to be erected here by Porritts & Spencer, Limited, Bury, England.

The Dominion Canners have purchased new office premises in Hamilton. They have bought the old Bell Telephone building on Hughson Street, the price being reported to be over $50,000. Their present offices are in the Landed Banking and Loan Building.

It is stated that plans have been prepared for a five-story tailoring establishment to be erected on Hughson Street.

The Beaver Motor Truck Company, capitalized at $350,000, have decided to locate in Hamilton. A light two-ton truck will be turned out.

Contracts have been let for a $16,000 warehouse for Canadian Cotton Co.; a $10,000 boiler house for Chipman Holton Knitting Co., and $10,000 warehouse for Canadian Steel & Wire Goods Co.

Kapuskasing.—It is expected that work will shortly be started on the new pulp and paper mill of the Spruce Falls Pulp & Paper Co., which will be erected at Kapuskasing, Ont. The capacity of the plant will be 200 tons a day, and the general contractors for the work and large dam which will be built on the river at this point are Morrow & Beatty, Limited, of Peterboro.

Kitchener.—The F. W. D. Auto Co. will commence construction of their new factory immediately.

The Komavar Chemical Co., Cleveland, Ohio, contemplate establishing a Canadian factory. It is stated that a site may be chosen in Kitchener or in London.

The Berlin Engine and Thresher Company, Limited, has changed its name to the Tuerk Engine and Tool Co., Limited.

A contract has been awarded by the A. & C. Boehmer Box Co. for the erection of an addition to their factory.

London.—General contract has been let by C. S. Hyman & Co., Limited, for a $300,000 addition to tannery.

Work will be commenced shortly on the Canadian branch factory of the Republic Motor Truck Co. The Canadian company is capitalized at $2,000,000.

The London Concrete Machinery Co. is building a $5,000 addition to its factory.

Merrickville.—The Percival Plow and Stove Co., Limited, are negotiating with the council for land on which to erect a new moulding shop and machine shop.

Morrisburg.—Handley-Page, Ltd., have secured a Dominion charter to engage in a general aeroplane business in Canada. The capital stock will be $2,500,000, and the head offices of the company will be at Morrisburg, Ont. The directors named are William Harold and Admiral Mark Kerr, London, Eng.; Harry Clark, Montreal; Fred. Chalmers and W. H. Gannon, of Morrisburg.

Niagara Falls.—A contract has been let for a factory for the Niagara Wire Weaving Co.

A factory is being erected by the Spring Water Bottling Co., Ferry Street.

Oshawa.—Contract has been let for a factory building to cost $100,000 by the Gananoque Spring & Axle Co.

The General Motors of Canada, Ltd., have announced part of their extension policy. A new four-story plant, 400 feet x 80 feet, will be erected to assemble Oldsmobiles and trucks. A central shipping building, 200 feet x 80 feet, with a capacity of fifty-six freight cars under roof, will be erected, so that inclement weather will not handicap shipping operations. An enamelling plant, 300 feet x 80 feet, three storeys, equipped with the most modern facilities for efficiency and mammoth production, will also be erected.

Port Colborne.—The Canada Cement Co. have let contracts for a potash recovery plant to cost $150,000.

Preston.—A new factory will be erected here by Otto Homuth, manufacturer of woolstock.

St. Thomas.—The F. J. Harding Co. are reported to be contemplating additions to their plant.

Sandwich.—A Detroit company manufacturing clutches for automobiles, trucks and tractors, has secured a site here and proposes to erect a branch plant, though building operations will not be commenced until next year.

Sault Ste. Marie.—The Algoma Steel Co. will spend several hundred thousand dollars in making extensions to their mills, to enable them to manufacture structural steel up to 32 inches.

Stratford.—The Kalbfleish Planing Mill, who have been for many years in the woodworking and retail lumber line, have recently branched out and added a new department in the manufacture of bodies for motor hearses, ambulances, coupes, limousines and other equipages.

Strathroy.—The Dominion Canners, Limited, have let the contract for a $60,000 plant here.

Toronto.—The new steel rolling mill which will be erected on the old British Forgings site, Ashbridge's Bay, Toronto, by Baldwins, Limited, of Swansea, Wales, will be known as Baldwin's Canadian Steel Corporation. A. M. Russell, of Hugh Russell & Sons, Montreal, will be president of the company, which will employ about 2,300 men within a year.

An addition costing about $16,000 will be made to the factory of J. J. McLaughlin, Limited, manufacturers of bottling and ice-cream machinery, etc.

A $60,000 factory building is being erected by Jos. Simpson & Sons, Limited, manufacturers of underwear and knitted goods.

A new suspender plant is to be erected on Spadina Avenue between Adelaide and Richmond Streets at an estimated cost of $135,000. Mr. Henry Greisman, head of the King Suspender Company, is the interested party. The building will be of mill construction and six stories high.

Possibly the only exclusive Canadian textile soap factory has been opened up in Toronto by the Standard Soap Company,

Penmans

Underwear, Hosiery and Sweaters
Laundry, Pulp and Papermakers' Felts, Blankets
Lumbermen's Socks, etc.

Factories at

PARIS, THOROLD, PORT DOVER, ALMONTE AND BRANTFORD, ONTARIO
ST. HYACINTHE AND COATICOOK, QUEBEC

Penmans LIMITED

PARIS : : : CANADA

Doon Twines
Limited

Kitchener - Canada

Manufacturers of

TWINES AND CORDAGE
CLOTHES LINES
PLOW LINES, etc.

We have a new line of Hemp Twine which we especially recommend for either light or heavy parcelling.

Our goods are made in Canada from the raw material. Assist the development of our country by buying Made-in-Canada goods.

MILLS AT DOON AND KITCHENER

The
MONTREAL COTTONS
LIMITED

MANUFACTURERS OF

WHITE VICTORIA LAWNS

WHITE NAINSOOKS

and

DYED COTTONS

OF EVERY DESCRIPTION

WE GIVE

"Quality and Service"

in

Tractor and Truck

Steel Castings

JOLIETTE STEEL CO. LIMITED

903 Read Building

MONTREAL

THE NAME

"BUTTERFIELD"

ON A TAP, DIE OR REAMER



is the most positive assurance of quality in the world. When a skilled mechanic looks on the shank of a tool and sees the name "Butterfield" he is satisfied that he has been provided with a tool that will be equal to the most exacting work.

Protect yourself by ordering "Butterfield" Taps, Dies and Reamers.

MADE IN CANADA

Butterfield & Co., Inc.

ROCK ISLAND, QUE.

Limited, who secured in May a modern factory at 40 Dovercourt Road, and are now manufacturing a full line of all kinds of textile soaps. Mr. H. M. Marshack, who is the part owner and manager of the new company, has had a lifelong experience in the textile soap manufacturing. Prior to coming to Canada he was for ten years associated with the Fiske Manufacturing Co., of Springfield, Mass. A number of the Canadian textile mills are already using the product of the new factory, which has a present capacity of two and a half million pounds a year, with room for enlargement if necessary.

Work has started rebuilding factory for Granite Concrete Block Co., Limited, 832 Weston Road.

An addition will be made to the foundry of the Wm. & J. G. Greey Co., 16 Church Street.

A tannery building will be erected by H. B. Johnston & Co., 774 Dundas St. East.

Canadian Tank and Pump Company, Limited, capital $50,000, head office, Toronto, Ont., plans to manufacture and deal in self-measuring oil pumps, tanks and storage systems.

Wallaceburg.—A small extension is being made to the plant of the Dominion Glass Co.

Windsor.—It has been announced that the Fisher Body Company, of Detroit, will shortly erect a five-story factory for the manufacture of closed automobile bodies at Windsor, which, when completed, will provide employment for about 200 men. This company is already operating a plant at Walkerville, where open automobile bodies are being manufactured.

The ratepayers have voted against the proposed by-law granting certain concessions to the Lamb Railway Service Co., including two-thirds of an acre in the factory district, in return for construction of a $10,000 factory.

Woodstock.—The Canadian Linderman Company of this city is about to resume manufacturing operations on a very extensive scale. The local plant was visited recently by representatives of the American Linderman Company, and they announce that, beginning this month, they will start manufacturing in the local plant, which has been undergoing extensive repairs of late, a unit electric lighting and power system, on which it is understood the company has purchased full patent rights. When the plant gets running steadily many men will be employed. During the war the company was manufacturing shells.

QUEBEC.

Longue Pointe.—General contract has been let for two factory buildings for the Montreal Locomotive Works, Limited.

Cap de la Madeleine.—Plans are being prepared for $50,000 extension to machine shop for Tidewater Shipbuilders, Limited.

Montreal.—Plans and specifications have been prepared for a factory for the Smardon Shoe Co., Limited, 533 Visitation Street.

Contracts have been let for a $60,000 addition to the factory of the McFarlane Shoe Co., Limited, 61 De Normanville Street.

Contracts have been let for four buildings at a cost of $455,000 by the National Breweries, Limited. A $44,000 factory will also be erected by the United Shoe Machinery Co.

Quebec.—The Rock City Tobacco Co. are making a $20,000 addition to their factory.

It is reported that an option has been taken upon property situated around Sillery Cove for its eventual purchase for the erection of a nine-million-dollar pulp mill. The promoters are well-known American financiers and practical pulp mill men.

Rigaud.—Burnett and Crampton are planning a new foundry capable of turning out 250 tons of castings a month. They will install molding machines and equipment of the most modern type for producing machinery castings, mill and mining equipment and general castings.

St. John's.—Belding-Paul-Corticelli, Limited, have awarded a contract to Anglin-Norcross, Limited, for the erection of a dye house. Cost of construction will be about $75,000.

Three Rivers.—It is announced that work will start at once for sulphite mill, grinding mill and three workshops costing $500,000 for the International Paper Co.

An extension is being made to the office of the Three Rivers Shipyard Co.

Plans are in preparation for the erection of an $8,000 factory for the Frisco Bottling Works Co.

Canada Iron Foundries, Limited, are erecting an $18,000 bath building.

SASKATCHEWAN.

Melville.—A cold-storage plant costing $60,000 will be erected by the Saskatchewan Co-operative Creameries.

Regina.—The Goodyear Tire and Rubber Co. has announced its intention of building a $75,000 block here at once to serve as western headquarters.

A warehouse will be erected here by the British-American Paint Co.

Plans are in progress and tenders will be called shortly for erection of $50,000 bakery for G. Gillam, Sanitary Bakery.

Young-Thomas Soap Co. will rebuild part of factory destroyed by fire, at cost of $5,000.

The Sanitary Buildings, Limited, contemplate construction of a warehouse and factory at corner of Scarth and Sixth Street. Estimated cost, $25.000.

Saskatoon.—Jackson Machines, Limited, are increasing their building capacity by three new buildings which will make their plant one of the most up-to-date factories in Western Canada. This year they are building 250 sheaf loaders and will increase this number for next year, when they will also be building a low-down type of separator which will be entirely new in this part of the country.

The shareholders of Frontenac Breweries, Limited, have agreed to the proposal of the Directors to increase the capital stock of the company from $1,000,000 to $2,000,000, and to make a further bond issue of $400,000. The additional capital is needed to provide for extensions.



SPRINKLER TANKS and TOWERS

also wood and steel tanks for Municipal, Railway and Suburban water supply.

All our tanks and towers are built to pass inspection of any Board of Fire Underwriters.

Send for special tank and tower catalogue.

GALVANIZING HOT AND ELECTRIC

We do all kinds of hot and electro galvanizing for the trade. Our plant is one of the largest in Canada and our charges reasonable.

Write us for quotations on your galvanizing work.

Ontario Wind Engine & Pump Co., Limited

TORONTO MONTREAL WINNIPEG CALGARY



Save Fifty TO Ninety Per Cent.

of your insurance premiums and eliminate all fire worries by having us protect your factory and its output with an

Automatic Sprinkler System

Your savings in insurance premiums buy the complete system on our participating plan.

CONSULT US

Heating and Power Plants

Designed, installed or remodelled to reduce your maintenance cost to a minimum.

Expert advice given in all branches of Plumbing, Heating and Sprinkler Work.

PURDY, MANSELL LIMITED

Engineers and Contractors

63 ALBERT ST. TORONTO, CAN.

T H-E

On Buying from Yourself

Goods and service being equal you would feel impelled to buy materials for your products from another plant where you had an interest, wouldn't you? It is on that basis that Hydro asks for your power order.

The Hydro is publicly owned; therefore as a citizen you are a part owner of the system, which is operated at cost. You have an interest in Hydro. Do you use Hydro?

Toronto Hydro-Electric System

226-8 Yonge St. Branch—Gerrard and Carlaw

Canada-South Africa
Direct Service

Regular monthly sailings from Montreal in Summer and St. John, N.B., in Winter, calling at Cape Town, Algoa Bay (Port Elizabeth), East London, Port Natal (Durban) and Delagoa Bay in the order named.

Sailings 20th of each month.

All steamers fitted with refrigerators for the carriage of perishable freight.

For rates of freight and other information apply to

ELDER DEMPSTER & CO., Limited
133 BOARD OF TRADE BUILDING - - MONTREAL
Toronto Agent: S. J. SHARP, 79 Yonge St., Royal Bank Bldg.

THE
New Zealand Shipping Company Limited
CANADA
TO
Australia and New Zealand

Regular monthly sailings from Montreal in summer and St. John in winter, calling at Auckland, Wellington, Lyttelton and Dunedin (New Zealand) and Melbourne and Sydney (Australia). Sailings 20th of each month.

Through bills of lading issued to all points in Australia, New Zealand, Tasmania and other islands of Oceania.

Marine Insurance effected at rates equal to those given from New York.

For rates and other information apply to
The New Zealand Shipping Co.
LIMITED
213 Board of Trade Building, Montreal

Recent Trade Enquiries

A List of Enquiries Received from Various Sources including the Canadian Trade Mission, London; the Canadian Trade Commission, Ottawa; the Department of Trade and Commerce, Ottawa; and the Commercial Intelligence Department, C.M.A., Toronto.

Foreign.

71. Agency.—Gentleman recently returned from four years overseas' service with the Canadian forces and having a thorough knowledge of Continental life, is in a position to act as a representative for Canadian firms on a commission basis.

73. Italy.—A correspondent in Genoa is desirous of communicating with some purely Canadian Asbestos Company with a view to representing them in Genoa. He states that a large trade can be developed in Italy, as the mines in Russia are closed.

73. West Indies.—A Canadian correspondent with considerable experience in the West Indies is desirous of representing some Canadian manufacturers.

74. Roumania.—A correspondent with high-class references wishes to represent Canadian manufacturers in Roumania. The goods specified are: Fencing nails, Agricultural implements, Women's wear, Dried fish, etc.

75. Antwerp.—An agency in Belgium is desirous of securing the names of Canadian firms who are likely to consider taking up direct export with Belgium.

76. Agency.—We have an enquiry from a gentleman in Jamaica who is desirous of getting into communication with one or two Canadian manufacturers of food products with the object of representing them on a commission basis or a regular weekly salary basis. He states that at present there are splendid opportunities offered for new and permanent business.

77. Export Agency.—A Canadian export agency with satisfactory bank and business references has opened a branch in Stockholm, Sweden, and desires to bring this fact before manufacturers who might be interested in that territory and at present have no connections there. They also wish to inform Canadian manufacturers that they have a branch in London, England.

78. English Markets.—A Canadian import and export agency of sound financial stability and with branches in London, Liverpool and Bradford, would like to hear from concerns desirous of exclusive representation in English markets.

79. France.—A correspondent who has been established in London as a manufacturers' agent wishes to open an office in Paris and would like to get into communication with some Canadian firms with the object of representing them in the following lines: Paper and other stationery articles; Household enamelledware; Electrical sundries and Rubber sundries; Twines; Foodstuff.

80. England.—A correspondent in Manchester wishes to sell the following articles on commission: Dry Batteries; Pocket Lamps; Electric Novelties; Carbons, etc.

81. Agency.—An export agency specializing in hand tools, hardware and goods appertaining to the general ironmongery trade, would be glad to be placed in communication with Canadian manufacturers of these articles.

82. Jamaica.—A firm in Kingston is desirous of representing Canadian manufacturers who are prepared to give them exclusive option for the sale of their products. This firm is especially interested in: Fishstuffs; Canned Goods; Butter; Margarine; Flour; Biscuits.

83. Roumania.—We have received a communication from a gentleman in Roumania, who for many years has been engaged in business as an importer in that city. He is conversant with five languages and states that he would like to make a connection with Canadian manufacturers for the sale of Canadian goods in Roumania.

84. Building Materials.—An import and export merchant in London who has been importing large quantities of building material from the United States, is seeking a source of supply for these commodities in Canada. He has been asked to quote for Canadian goods and wishes to get in touch with one or two manufacturers who require their goods put on British markets.

85. Liverpool.—An agency in Liverpool with connections in West Africa is prepared to ship palm Oil, Raw Cocoa Beans, and tropical products, direct from West Africa to Montreal, and is desirous to hear from any manufacturers who may be interested. They are also open to buy tallow and grease from Canada.

86. Export.—A London export firm having a branch established in Shanghai for over twelve years is desirous of communicating with Canadian manufacturers of hardware who wish their goods placed on the Northern China market.

87. Buenos Aires.—A firm in Buenos Aires desires the names of Canadian woollen and cotton concerns who wish to be represented in the Argentine Republic, Uruguay and Paraguay. For the past sixteen years this agency has been representing European and American concerns.

88. France.—A correspondent is anxious to act as agent for Canadian goods.

CANADIAN PACIFIC



CHATEAU FRONTENAC—QUEBEC

A famous hotel amid picturesque and historic surroundings in the heart of the most distinctive city of North America. Standing on Dufferin Terrace it commands magnificent views of the St. Lawrence.

OTHER CANADIAN PACIFIC HOTELS

OPEN ALL THE YEAR ROUND

"Place Viger," Montreal; "Royal Alexandra," Winnipeg; "Palliser Hotel," Calgary; "Vancouver Hotel," Vancouver; "Empress Hotel," Victoria.

TRAVEL CANADIAN PACIFIC

Particulars from Ticket Agents—W. B. Howard, District Passenger Agent, Toronto

The Canadian Wood Turpentine—made at our mills at LaTuque, P. Q., is an excellent diluent and solvent and contains no free rosin.

Further information will gladly be sent upon request.

BROWN CORPORATION

Sales Office: *Portland, Maine, U. S. A.*

STEEL FACTORY EQUIPMENT



Steel Waste Paper Basket

Steel Shop Boxes, Foundry Boxes, Shelf Boxes, Shop Barrels, Stools, Oily Waste Cans, Garbage Cans

Gasoline Tanks and Pumps, Pressure Tanks, Storage Tanks, Smoke Stacks

Anything in Black or Galvanized Sheet Metal up to ⅛ thickness. Send blue print or rough drawing and get our prices.

Sheet Steel Sundries for the manufacturers is one of our specialties.

Write us

The Steel Trough and Machine Co., Limited
Tweed, Ont., Canada



CANADIAN CHICAGO BRIDGE AND IRON COMPANY
Limited
Bridgeburg, Ontario

ELEVATED STEEL TANKS
For Municipal, Railroad and Factory Service

Storage Tanks, Self-Supporting Steel Stacks and All Classes of Heavy Plate Metal Work

Write our nearest sales office to-day for prices, plans and specifications. Our catalogue No 25 gladly mailed to you, upon request.

OFFICES:
Bridgeburg, Ont., Can. 121 Janet St.
Chicago, Ill., 2116 Old Colony Bldg.
New York, 3132 Hudson Terminal Bldg.

SHOPS:
Bridgeburg, Ontario
Greenville, Pa (Pittsburg District)
Chicago, Illinois

ESTABLISHED 1875

The Boiler Inspection and Insurance Co. of Canada

Continental Life Building, Toronto

Issues Policies of Insurance after a Careful Inspection of the Boilers Covering Loss or Damage to Property and Loss Resulting from Loss of Life and Personal Injuries. Policies Guaranteed by The Hartford Steam Boiler Inspection and Insurance Company.
Assets for Security of Policyholders, $4,552,020.43.

H. N. ROBERTS . . . . . President
OLAF E. GRANBERG . . . . Vice-President
JAMES P. BYRNE . . . . . Secretary
M. B. ROBINSON . . . . . Asst. Secretary

89. Light Railway Specialties.—A London firm wishes to hear from a Canadian concern who would assemble motor commutators.
90. France.—A firm with several clothing shops in Paris would like to get in touch with Canadian manufacturers of clothing and textiles.
91. Montreal.—A Montreal firm is desirous of securing agencies of Canadian manufactured goods for export trade. They have a large organization operating throughout Great Britain, and are in a position to accept samples and submit them to their London office.
92. Confectionery.—A Liverpool confectionery importer asks for offers of the above.
93. Table Glassware.—A Liverpool firm asks to be placed in touch with exporters of the above.
94. Strawboards.—A Glasgow firm asks for quotations on 3½, 4, 6, 8, 10, and 12 oz. strawboards, lined and unlined, in boards 22 in. by 30 in., in carload lots.
95. Canned Fruits and Fish.—A Glasgow firm asks to be put in communication with exporters of the above.
96. Glasgow.—A Glasgow firm wishes to hear from Flour Mills desiring representation after control is removed.
97. Wrapping Paper.—A Scottish firm asks to be placed in touch with exporters of Kraft Brown paper.
98. Electrical Heating and Cooking Appliances.—A Glasgow firm asks to be put into communication with exporters of the above.
99. Scotland.—A Glasgow manufacturers' agent would like to arrange to represent exporters of ladies' boots, medium and best, and men's boots, medium.
100. Denmark.—A firm in Copenhagen wishes to get into touch with Canadian shippers of salted salmon, canned lobsters, and flour, with a view to the establishment of direct business relations.
101. Railway Ties or Sleepers.—A London company of timber importers and creosoters would be glad to enter into correspondence with Canadian manufacturers of railway ties with a view to future business.
102. Egypt.—A gentleman who has lived many years in Canada is interested in a commercial agency established in Egypt. Being in close touch with conditions in Egypt, Soudan and Syria, he foresees opportunities for Canadian export and import trade with these countries, and would be willing to reply promptly to any enquiries re export or import trade.
103. England.—A manufacturers' agent, with high-class references and good connections with London City and West end firms, is anxious to get in touch with manufacturers of footwear, including rubber overshoes, canvas shoes, rubber Wellingtons and gum boots.
104. Belgium.—A Belgian engineer, 43 years old, graduated from Liege University, who speaks English and is well trained in the manufacture of cement, desires employment with a Canadian industry.
105. India.—A Canadian officer, who is being repatriated from India, is in close touch with Indian manufacturers of silk and sandal-wood oil. On his return to Canada he intends to specialize in products and manufactures of India, and is willing to answer any enquiries respecting prospective markets in India for purchase or sale of manufactures or productions.
106. Hardware, Building and Engineering Goods.—A London firm asks to be placed in touch with Canadian manufacturers of hardware, rails, wire nails, and other building and engineering goods, who wish to extend their business and are not already represented in the United Kingdom. Banker's reference.
107. Boards and Paper.—A firm of wholesale board merchants and paper mill agents in Nottingham would be glad to hear from Canadian manufacturers of boards and papers of all kinds seeking an export outlet.
108. Crude Methyl Alcohol.—An English firm asks for the addresses of Canadian manufacturers of crude methyl alcohol.
109. Oil Cooking and Heating Stoves.—A Liverpool firm asks to be placed in touch with manufacturers of the above.
110. Birch Planks and Boards.—A Liverpool firm asks to be placed in touch with exporters of the above.
111. Mineral Products.—A Sheffield firm asks to be placed in touch with exporters of cobalt, nickel, and ferro alloys.
112. Belgium.—A correspondent is desirous of communicating with Canadian manufacturers of food products desiring a representative in Belgium.
113. Oatmeal and Rolled Oats.—A London firm wishes to hear from Canadian producers of rolled oats and oatmeal.
114. A Director of a large British firm of exporters and importers, with head office in London, and branch offices in New York, Paris, Amsterdam and Brussels, is on his way to Canada for the purpose of establishing relations with Canadian manufacturers interested in European business, and to establish a Canadian office.
115. Glassine Paper.—A London firm ask for the addresses of Canadian manufacturers from whom they can purchase supplies of Glassine Paper.
116. Chocolates.—A London firm of import and export merchants wish to get into touch with Canadian manufacturers who can fill orders for Milk Chocolates and Assorted Chocolates.
117. Kraft Paper.—A Glasgow firm asks for c.i.f. prices on car lots of the above.
118. Ivory and Pearl Buttons.—A Glasgow firm whose supply of the above from the United States has been shut off by restrictions asks to receive samples and quotations from Canadian exporters.
119. Picture Mouldings.—A Glasgow firm asks to be placed in touch with exporters of the above.

Canadian National Railways

SERVE ALL CANADA

Lines of the C.N.R. traverse every province in the Dominion. They serve most important points, reach direct every seaport with the exception of one in Northern British Columbia. Therefore

Why Not Ship Canadian National?

Next time you have a consignment going out, instruct your shipper to route it over your own line, the C.N.R.

Get the "National" Idea

Canadian National Railways

Principal Agencies:—Halifax, N.S.; Moncton, N.B.; St. John, N.B.; Charlottetown, P.E.I.; Quebec, Que.; Montreal, Que.; Ottawa, Ont.; Toronto, Ont.; Port Arthur, Ont.; Winnipeg, Man.; Regina, Sask.; Saskatoon, Sask.; Prince Albert, Sask.; Edmonton, Alta.; Calgary, Alta.; Kamloops, B.C.; New Westminster, B.C.; Vancouver, B.C.; Victoria, B.C.

120. Oil Heating and Cooking Stoves.—An Edinburgh firm makes enquiry for oil heating and cooking stoves of the "Perfection" type.

121. Sweetened Condensed Milk and Condensed Milk Powder.—A Glasgow firm asks to be placed in touch with exporters of above.

122. Files and Rasps.—A Glasgow firm asks to be placed in touch with exporters of above.

123. Agricultural Tool Handles.—A Glasgow firm is in the market for considerable quantities of agricultural tool handles.

124. Broom Handles.—A Glasgow firm is interested in importing the above.

125. Wash-boards, Clothes-pegs and Household Woodenware.—A Glasgow firm asks to be placed in communication with exporters of the above.

126. Kraft Paper.—A Glasgow firm make enquiry for Kraft Paper.

127. Woodworking Machinery.—A Glasgow firm would like to hear from exporters of woodworking machinery, saw benches, band-saw machines, planing machines, mortising machines, etc.

128. Cycle Accessories.—A Glasgow firm asks for Catalogues and prices of cycle accessories, such as lamps, frames, bells, chains, etc.

129. Gramophones, etc.—A Glasgow firm are in the market for gramophones and gramophone motors that can meet existing competition.

130. Automobile Accessories.—A Glasgow firm asks for catalogues and price-lists of automobile accessories, such as horns, mechanical and electric, tire pumps, lamps, hub caps, hub-cap and sundry spanners, etc.

131. Aluminum Billets.—A Glasgow firm asks for quotations on 300 tons of aluminum billets.

132. Hardware.—A correspondent with extensive business connection wishes to arrange with export manufacturers in Canada of hardware and woodenware to represent them in England.

133. England.—A reliable firm in London wishes to get in touch with Canadian packers of jam: plum, peach, quince, gooseberry, pear, strawberry, raspberry, and apricot. They already handle a large trade with South Africa and could do the same with Canada.

134. Holland.—We have numerous enquiries from reliable agents in Holland, wishing to get in touch with Canadian manufacturers and exporters of the following: biscuits, preserves, tinned goods, jams and confectionery.

135. Leather, Agricultural Implements, Oilcake, Asbestos, Aluminum.—A Belgian company with branches in the United Kingdom, France, the United States, etc., is desirous of securing the sole agency for Belgium of Canadian manufacturers of sole leather, agricultural implements, oilcake, asbestos and aluminum in pigs.

136. Wood, Steel and Leather Products.—A correspondent who has been crossing the ocean continuously from 1880-1908 calling on manufacturers in Great Britain and France, is keenly aware of the openings for manufacturers of wood, steel and leather products in the British market, and knows where there are still opportunities for Canadian makers now supplying manufactured lines formerly purchased from German makers. Having the knowledge and experience, he is anxious to get in touch with Canadian manufacturers with the object of representing them in the British Isles and France.

Taking Over Toronto Plant

British Forgings Plant Become Baldwin's Canadian Steel Corporation, Limited

Announcement is made that the British Forgings plant at Toronto, which was recently bought by Baldwin's, Ltd., of Swansea, Wales, will be operated as Baldwin's Canadian Steel Corporation, Ltd. The new firm will be capitalized at $10,000,000, it is said, and will employ 2,300 men within a year.

E. L. Cousins, chief engineer of the Toronto Harbor Commission, who negotiated with the company on behalf of the city and the harbor commission, states that A. M. Russel, of Hugh Russel & Sons, Ltd., Montreal, was largely instrumental in persuading Baldwin's to establish a plant in Canada. Mr. Russel went to Wales for the purpose of interesting his principals, with the result that J. C. Davies, managing director of Baldwin's, Ltd., came to Canada, accompanied by D. E. Roberts, consulting engineer of the company, and the deal was consummated soon afterwards. Mr. Russel will be president of the new Canadian corporation.

Within a few months the new firm will begin the manufacture of tin plates, black sheet and galvanized sheet. The British Forgings plant, located in the Toronto Harbor Commission's eastern harbor terminal, is 127 acres in extent, with 1,600 lineal feet of 24-ft. dockage.

HON. FINLAY G. MACDIARMID,
Minister of Public Works

W. A. RIDDELL, M.A., Ph.D.,
Superintendent

TRADES AND LABOUR BRANCH
DEPARTMENT OF PUBLIC WORKS

THE TRADES AND LABOUR BRANCH administers the following:

The Trades and Labour Branch Act
The Bureau of Labour Act
The Stationary and Hoisting Engineers Act
The Building Trades Protection Act
The Factory, Shop and Office Building Act
The Steam Boiler Act
Employment Bureaus
Investigation and Research

Employment offices are in operation in 35 cities and towns of the Province, and are the Ontario units of the recently organized "Employment Service of Canada."

Are you getting your help through the medium of the employment service, which you as a taxpayer are helping to support?

The value of these bureaus will increase in proportion to the extent to which they are used by employers.

NOTICE TO STEAM USERS:

At the last Session of the Legislature, the Act respecting Stationary and Hoisting Engineers was amended, said amendment requires that on and after January the 1st, 1920, all stationary steam plants in the Province of Ontario must be registered with the Board of Stationary and Hoisting Engineers. Application forms for this purpose will be forwarded on request. The boiler horsepower and other information contained in these application forms is to be used for statistical purposes.

A Registration Certificate will be issued to each applicant.

W. C. McGHIE,
Chairman of Board
15 Queen's Park, Toronto

Buyers' Guide to Canadian Manufactures

List of Articles which will Enable the Purchaser to Know the Manufacturers of Made-in-Canada Goods. For Rates of Insertion in this Department write to the Advertising Manager of INDUSTRIAL CANADA, C.M.A., Toronto, Ont.

ABATTOIR MACHINERY AND SUPPLIES
*The John Whitfield Company, Toronto, Ont.

ABRASIVES
*Coralox, Limited, Hamilton, Ont.
*Canadian Hart Wheels, Limited, Hamilton, Ont.
*Dominion Abrasive Wheel Co., New Toronto, Ont.

ACCOUNT BOOKS
*The Brown Bros., Ltd., Toronto.

ACETYLENE GAS
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.

ACETYLENE GAS BURNERS
Economic Acetylene Burner Co., Toronto, Ont.
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.

ACIDS
*The Grasselli Chemical Co., Ltd., Toronto.
*The Nichols Chemical Co., Ltd., Montreal, Que.

ADVERTISING NOVELTIES
Lawson & Jones, Ltd., London, Ont.

AERATED BEVERAGES
Charles Gurd & Co., Ltd., Montreal, Que.
J. J. McLaughlin, Ltd., Toronto.

AIR COMPRESSORS
*Canadian Ingersoll-Rand Co., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

AIR DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

ALCOHOL
*Canadian Industrial Alcohol Company, Ltd., Montreal, Que.
Hiram Walker & Sons, Limited, Walkerville, Ont.

ALUMINUM
*Northern Aluminum Co., Ltd., 1805 Traders Bank, Toronto,

ALUMINUM CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

AMMONIA
Canadian Ammonia Co., Ltd., Toronto, Ont.

ANCHORS, all steel
Beauchemin & Fils, Ltd., Sorel, Que.

ANGLE BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*The Steel Company of Canada, Ltd., Hamilton, Ont.

ARSENIC
*Deloro Smelting & Refining Co., Limited, Deloro, Ont.

ARTIFICIAL LIMBS
Chesley Artificial Limb Co., Ltd., Hanstport, N.S.

ASBESTOS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS SHEATHING
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS SHEET AND PISTON PACKINGS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS STEAM PIPE AND BOILER COVERINGS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ASBESTOS TEXTILES
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

ATTACHMENT PLUGS
*Crouse-Hinds Co., Ltd., Toronto.

AUTOGRAPHIC REGISTERS
*Autographic Register Co., Ltd., Montreal, Que.

AUTOGRAPHIC REGISTER SYSTEMS
Business Systems, Ltd., Toronto.

AUTOMOBILE ACCESSORIES
*McKinnon Industries Limited, St, Catharines, Ont.
*Northern Electric Co., Limited, Montreal, Que.
*Tallman Brass & Metal Co., Hamilton, Ont.

AUTOMOBILE PARTS
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.

AWNING CORD (cotton)
Hamilton Cotton Co., Hamilton, Ont.

AXLES
Canada Forge Co., Ltd., Welland, Ont.
Guelph Spring & Axle Co., Ltd., Guelph, Ont.

AXLES, carriage and automobile
Guelph Spring & Axle Co., Ltd., Guelph, Ont.

BABBITT METAL
Alonzo W. Spooner, Ltd., Port Hope, Ont.
*The Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BACON
E. W. Fearman Co., Ltd., Hamilton, Ont.

BAGS
*Scythes & Co., Ltd., Toronto.

BAGS, Cotton
The Canadian Bag Co., Limited, Montreal, Que.

BAGS, jute
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Ltd., Toronto.

BAGS, travelling
J. Eveleigh & Co., Ltd., Montreal.
Lamontague, Ltd., Montreal, Que.
The M. Langmuir Mfg. Co., of Toronto, Ltd., Toronto, Ont.

BAND RESAWS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

BAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

BANK FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.

BANK AND OFFICE RAILINGS AND CAGES
*Canada Wire and Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*The Geo. B. Meadows, Toronto, Wire, Iron & Brass Works Co., Ltd., Toronto, Ont.

BANK SIGNS AND FITTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

BARRELS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

BARS, iron
London Rolling Mill Co., Ltd., London, Ont.

BARS, steel
London Rolling Mill Co., Ltd., London, Ont.

BASEBALL GOODS
A. J. Reach Co., Brantford, Ont.

BATHS, enamelled
Amherst Foundry Co., Ltd., Amherst, N.S.

BATTERIES, dry
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BATTERIES, Flashlight
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BATTERIES, Storage
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BEARINGS
*The Chapman Double Ball Bearing Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BEARINGS, bronze
*Tallman Brass & Metal Co., Hamilton, Ont.

BEARINGS, pillow block and upright
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BEDS, camp folding
*Otterville Mfg. Co., Ltd., Otterville, Ont.

BEEF
E. W. Fearman Co., Ltd., Hamilton, Ont.

BELTING, chains
*Canadian Link-Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

BELTING, elevator
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.

BELTING, leather
The Beardmore Belting Co., Ltd., Toronto, Ont.
*J. L. Goodhue & Co., Danville, Que.
*Sadler & Howarth, Montreal.
*The D. K. McLaren Belting Co., Ltd., Montreal, Que.
*The J. C. McLaren Belting Co., Ltd., Montreal, Que.

BELTING, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha and Rubber Ltd., Toronto, Ont.

BELTING, stitched cotton duck
*Dominion Belting Co., Ltd., Hamilton, Ont.

BENT GOODS
The Crown Lumber Co., Woodstock, Ont.

BICYCLES AND ACCESSORIES
*Canada Cycle and Motor Co., Ltd., Toronto, Ont.

BISCUITS
The Montreal Biscuit Co., Montreal, Que.

BLACK SHEETS
*A. C. Leslie & Co., Montreal, Que.

BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Ltd., Bolton, Ont,

BLANKETS, horse
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Ltd., Bolton, Ont.

BLASTING ACCESSORIES
Canadian Explosives, Ltd., Montreal, Que.

BLEACHING POWDER
Canadian Salt Co., Ltd., Windsor Ont.

BLOWERS
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

BOATS OF ALL KINDS
Peterboro Canoe Co., Ltd., Peterboro, Ont.

BOBBINS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.

BOILER COMPOUND AND OILS
Electric Boiler Compound Co., Ltd., Guelph, Ont.

BOILERS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Darling Bros., Montreal, Que.
*Goldie & McCulloch Co., Limited, Galt, Ont.
*Lauzon Engineering Ltd., Levis, Que.
J. & R. Weir, Montreal, Que.
Taylor-Forbes Co,, Ltd., Guelph,
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BOILERS, hot water or steam
Steel & Radiation Ltd., Toronto.
Warden King, Ltd., Montreal.

BOILERS, steam
Canadian Ingersoll-Rand Co., Sherbrooke, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BOILERS, steam and brass work
*The Waterous Engine Works Co., Ltd,, Brantford, Ont.

BOILER STANDS
Anthes Foundry Ltd., Toronto.

BOLSTERS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.

BOLTS AND NUTS
*The Canadian Tube & Iron Co., Ltd., Montreal, Que.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Company of Canada, Ltd., Hamilton, Ont.
Starr Mfg. Co., Ltd., Dartmouth, N.S.

BOOKBINDERS
R. G. McLean, Toronto.
*The Brown Bros., Ltd., Toronto.
The Mortimer Co., Ltd., Ottawa, Ont.

BOOKCASES
*Office Specialty Mfg. Co., Ltd,, Newmarket, Ont.

BOOKCASES, sectional (Gunn)
The George McLagan Furniture Co., Ltd., Stratford, Ont.

BOOKLETS
R. G. McLean, Toronto.

BOOKS, blank
*The Brown Bros., Ltd., Toronto.

BOOTS AND SHOES
Ames-Holden-McCready, Limited, Montreal, Que.
J. Leckie Co., Ltd.
The John Ritchie Co., Ltd., Quebec, Que.

BOXES
*Crouse-Hinds Co., Ltd., Toronto.

BOXES, cellular board
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls.

BOXES, rattle and soap
The Arlington Co. of Canada, Ltd., Toronto, Ont,

BOXES, steel shop
*Steel Trough and Machine Co., Ltd., Tweed, Ont.

BOXES AND SHOOKS, wooden
The C. Beck Mfg. Co., Ltd., Penatanguishene, Ont.

BOXES, wooden
G. & J, Esplen, Montreal, Que.
Barchard & Co., Ltd., Toronto.

BOXBOARDS, for making paper boxes
*Canada Boxboard Co., Limited, Montreal, Que.

BRAIDS AND TRIMMINGS
The Moulton Mfg. Co., Limited, Montreal, Que.

BRAKE SHOES
*Canadian Hart Wheels, Limited, Hamilton, Ont.

BRAKE SHOE BACKS
*The John Whitfield Company, Toronto, Ont.

BRANDS, burning
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

*For Display Advertisement see Index, Page 45

BRASS BOLTS AND NUTS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS AND BRONZE WIRE
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

BRASS, BRONZE and ALUMINUM LETTERS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS ENGRAVERS
Pritchard. Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

BRASS FOUNDERS AND FINISHERS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS GOODS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Mueller Mfg. Co., Sarnia, Ont.
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
*The Kerr Engine Co., Limited, Walkerville, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS PLATES
Geo. Booth & Son, Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS RODS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS RODS, SHEETS AND PLATES
*Brown's Copper and Brass Rolling Mills, Ltd,, New Toronto.

BRASS SHEETS AND PLATES
*Dominion Copper Products Company, Ltd., Montreal, Que.

BRASS SIGNS AND MEMORIALS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS TUBING, seamless
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Company, Ltd., Montreal, Que.

BRASS WIRE
Canadian Seamless Wire Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS WORK, church
Pritchard. Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

BRASS WORK, special
Bawden Machine Co., Ltd., Toronto, Ont.
*H. Mueller Mfg. Co., Ltd., Sarnia, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BRICK
National Brick Co. of Laprairie, Laprairie, Que.
Port Credit Brick Co., Port Credit, Ont.
The Citadel Brick & Paving Block Co., Ltd., Quebec, Que.

BRICK, enamel
National Brick Co. of Laprairie, Laprairie, Que.

BRICK, pressed
National Brick Co. of Laprairie, Laprairie, Que.
The Citadel Brick & Paving Block Co., Ltd., Quebec, Que.

BRICK, rubbing
*Canadian Hart Wheels, Limited, Hamilton, Ont.

BRICK, sewer.
National Brick Co. of Laprairie, Laprairie, Que.

BRIDGES, Railway and Highway
*Hamilton Bridge Works Co., Ltd., Walkerville, Ont.
*The Canadian Bridge Co., Ltd., Hamilton, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
*Dominion Bridge Co., Montreal.
*Mackinnon Steel Co., Ltd., Sherbrooke, Que.
*Manitoba Bridge & Iron Works, Ltd., Winnnpeg, Man,

BROOMS
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Limited, Port Elgin, Ont.

BRONZE SHEETS AND PLATES
*Dominion Copper Products Company, Ltd., Montreal.

BRONZE SHEETS, RODS, PLATES
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

BRONZE TUBING, seamless
*Dominion Copper Products Company, Limited, Montreal,

BRUSHES
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Ltd., Port Elgin, Ont.

BRUSHES, carbon
Canadian National Carbon Co., Ltd., Toronto.

BUCKET TANKS
*MacKinnon Steel Co., Ltd,, Sherbrooke, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.

BUCKLES, shoe and coat
Parmenter & Bulloch Co., Limited, Gananoque, Ont.

BUCKLES, harness and trunk
*McKinnon Industries, Ltd., St. Catharines, Ont.

BUILDING BLOCKS, vitrified, salt glazed
Standard Clay Products, Ltd., St. Johns, Que.

BUILDING FELT AND PAPER
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.
*The Barrett Co., Ltd., Toronto and Montreal.

BURLAPS
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Ltd., Toronto.

BURLAPS, decorative
Dominion Oil Cloth Co., Limited, Montreal, Que.

CABLE ACCESSORIES
*Crouse-Hinds Co., Ltd., Toronto.

CABLES, electric light, power, telephone and telegraph
*Standard Underground Cable Co. of Canada, Ltd,, Hamilton, Ont.

CABLES, transmission and telephones
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.

CABLES, transmission and cable
*Northern Electric Co., Ltd., Montreal, Que.

CABLES, wire
The Dominion Wire Rope Co., Ltd., Montreal, Que.
*The B. Greening Wire Co., Ltd., Hamilton, Ont.

CALENDARS, ADVERTISING NOVELTIES, etc.
Lawson & Jones, Ltd., London.

CAMERAS
Canadian Kodak Co., Ltd., Toronto, Ont.

CAMPERS' OUTFITTERS
Slingsby Mfg. Co., Ltd., Brantford, Ont.

CANADA SILVER
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

CANOES
Peterboro Canoe Co., Ltd., Peterboro, Ont.
*Canadian Canoe Co., Ltd., Peterboro, Ont.

CANS, baking powder, etc.
American Can Co., Montreal (Que.) and Hamilton (Ont.).
A. R. Whittall Can. Co., Ltd., Montreal, Que.
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANS, fruit
American Can Co., Montreal (Que.) and Hamilton (Ont.).
A. R. Whittall Can. Co., Ltd., Montreal, Que.
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANS, iron, lead and putty
A. R. Whittall Can. Co., Ltd., Montreal, Que.

CANS, tin
A. R. Whittall Can Co., Ltd., Montreal, Que.
American Can Co., Montreal (Que.) and Hamilton (Ont.).
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANVAS
*Scythes & Co., Ltd., Toronto, Ont.

CAPS, cloth
John W. Peck & Co., Ltd., Montreal, Que.

CAPS FOR HUBS
*McKinnon Industries, Ltd., St. Catharines, Ont.

CARBIDE
*Canada Carbide Co., Ltd., Montreal, Que.
*Union Carbide Co. of Canada, Ltd. Works, Welland, Ont. Head Office, Toronto, Ont.

CARBONS, electric
Canadian National Carbon Co., Ltd., Toronto, Ont.

CARBONS (headlight)
*Crouse-Hinds Co., Ltd., Toronto.

CARBONIC ACID GAS
Canadian Carbonate Co., Montreal.

CARD RECORD SYSTEMS
Lowe-Martin Co., Ltd., Ottawa, Ont.
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

CARPETS AND RUGS
Toronto Carpet Mfg. Co., Limited, Toronto.

CARPETS AND RUGS, Axminster and ingrain
Toronto Carpet Mfg. Co., Ltd.

CARPETS AND RUGS, Brussels and Wilton
Toronto Carpet Mfg. Co., Ltd., Toronto, Ont.

CARPET YARNS, worsted and wool
Toronto Carpet Mfg. Co., Ltd., Toronto, Ont.

CARRIAGE CASTINGS
*McKinnon Industries, Ltd., St. Catharines, Ont.

CARRIAGES, baby, etc.
Canada Furniture Manufacturers, Ltd., Woodstock, Ont.

CARRIERS
*Richards-Wilcox Canadian Co., Ltd., London, Ont.

CARRIERS, box and barrel
*Canadian Mathews Gravity Carrier.

CARRIERS, brick
*Canadian Mathews Gravity Carrier Co., Limited, Toronto.
*Richards-Wilcox Canadian Co., Ltd., London, Ont.

CARS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*National Steel Car Co., Ltd., Hamilton, Ont.

CARS, industrial
Hammant Steel Car & Engineering Works, Hamilton, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.

CARTONS, lithographed
Harris Lithographing Co., Ltd., Toronto, Ont.

CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, aluminum
*Booth-Coulter Copper & Brass Co., Ltd.. Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, brass
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Lauzon Engineering, Ltd., Levis, Que.
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, brass and bronze
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, grey iron
*Canadian Rumely Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Dodge Mfg. Co., Toronto.
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Wm. Kennedy & Sons, Ltd., Owen Sound, Ont.
*Lauzon Engineering, Ltd., Levis, Que.

CASTINGS, malleable iron
*Crouse-Hinds Co., Ltd., Toronto.
*Galt Malleable Iron Co., Ltd., Galt, Ont.

CASTINGS, steel
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Founderies, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton, Ont.
*Hull Iron & Steel Foundry, Ltd., Hull, P.Q.
*Wm. Kennedy & Sons, Ltd., Owen Sound, Ont.

CATALOGUE MAKERS
Grip, Ltd., Toronto, Ont.

CATALOGUE COVERS, by new lithographing process
Harris Lithographing Co., Ltd., Toronto, Ont.

CAUSTIC SODA
Canadian Salt Co., Ltd., Windsor.

CAUSTICS
*Dominion Oil Co., Ltd., Hamilton.

CELLBOARD
Adams Cellboard Co., Toronto.

CEMENT GUNS
Steel & Radiation, Ltd., Toronto.

CENTRIFUGAL PUMPS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

CHAINS, for elevators, conveyors and drives
*Canadian Link-Belt Co., Toronto.

CHAINS, sling
*The John Whitfield Co., Toronto.

CHAIRS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

CHAIRS, assembly hall
Stratford Mfg. Co., Ltd., Stratford, Ont.

CHAIRS, folding
Stratford Mfg. Co., Ltd., Stratford, Ont.

CHAIRS, rattan and upholstered
Imperial Rattan Co., Ltd., Stratford, Ont.

CHAIRS FOR AUTOMOBILES, camp, boat
*McKinnon Industries, Ltd., St. Catharines, Ont.

CHECKS, swing checks, etc.
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

CHEMICALS
Canadian Laboratory Supplies, Ltd., Toronto, Ont.
*Dominion Oil Co., Ltd., Hamilton, Ont.
*The Grasselli Chemical Co., Ltd., Toronto, Ont.
*The Nichols Chemical Co., Ltd., Montreal, Que.

CHEMISTS, industrial
*Milton Hersey Co., Montreal.

CHICLETS AND CHEWING GUM
Canadian Chewing Gum Co., Ltd., Toronto, Ont.

CIRCULAR CUTTERS, solid steel
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Ltd., Galt, Ont.

CIRCULAR SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

CLAM SHELL BUCKETS
*M. Beatty & Sons, Ltd., Welland, Ont.

CLOCKS, time
*International Business Machines Co., Ltd., Toronto.

CLOCKS, watchmen's
*The Bennett & Wright Co., Ltd., Toronto, Ont.

CLOSET SEATS
*Goderich Organ Co., Goderich,Ont.

CLOTHING
John W. Peck & Co., Ltd., Montreal, Que.

CLOTHING, leather and sheepskin lined coats
*A. R. Clarke & Co., Ltd., Toronto.

CLOTHING, Mackinaw
The Carss Mackinaw Clothing Co., Ltd., Orillia, Ont.

CLOTHES LINES, cotton
Hamilton Cotton Co., Hamilton, Ont.

CLUTCHES
*Dodge Mfg. Co., Ltd., Toronto.

CLUTCHES, conveyors
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

*For Display Advertisement see Index, Page 45

COAL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
Standard Fuel Co., Toronto, Ont.
COAL CUTTERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal.
COBALT OXIDE
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
The Coniagas Reduction Co., Ltd., St. Catharines, Ont.
COBALT METAL
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
COFFEE
S. H. Ewing & Sons, Montreal.
COLD DRAWN SHAPES, flats, squares and hexagons
*The Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.
COLD STORAGE DOORS
John Hillock & Co., Ltd., Toronto.
COLLAR BUTTONS
The Arlington Co. of Canada, Ltd., Toronto, Ont.
COLLARS
The Standard Shirt Co., Ltd., Montreal, Que.
COLLARS, coated linen
Parsons & Parsons Canadian Co., Hamilton, Ont.
COLLARS, shaft
Bond Engineering Co., Toronto.
COLORS
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal.
COMBS, fine dressing and name
The Arlington Co. of Canada, Ltd., Toronto, Ont.
COMMERCIAL STATIONERY
*Brown Bros., Ltd., Toronto, Ont.
CONCRETE COATINGS, PAINTS, Etc.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
CONDUITS FOR INTERIOR WIRING
*Conduits Co., Ltd., Toronto, Ont.
CONDULET BOX FITTINGS
*Crouse-Hinds Co., Ltd., Toronto.
CONDULETS (marine)
*Crouse-Hinds Co., Ltd., Toronto.
CONFECTIONERY
Ganong Bros., Ltd., St. Stephens, N.B.
Moirs, Ltd., Halifax, N.S.
The Montreal Biscuit Co., Montreal, Que.
CONTAINER BOARD—strong container
Bathurst Lumber Co., Ltd., Bathurst, N.B.
CONTRACTOR'S PLANT
*M. Beatty & Sons, Ltd., Welland, Ont.
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
Canadian Ingersoll-Rand Co., Sherbrooke, Que.
CONVEYORS
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
COPPER
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
COPPER, SHEETS, PLATES, BARS, RODS
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto, Ont.
COPPER SHEETS AND PLATES
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Co., Ltd., Montreal, Que.
COPPERSMITHS
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
COPPER TUBING, seamless
*Dominion Copper Products Co., Ltd., Montreal, Que.
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.

COPPER WIRE
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
CORKS
S. H. Ewing & Sons, Montreal, Que.
CORK CARPET
Dominion Oil Cloth Co., Ltd., Montreal, Que.
CORRUGATED PAPER BOXES
Adams Cellboard Co., Toronto.
Corrugated Paper Box Co., Ltd., Toronto, Ont.
*Hinde & Dauch Paper Co., Toronto, Ont.
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
CORUNDUM, artificial
*Coralox, Ltd., Hamilton, Ont.
CORSETS
Dominion Corset Co., Quebec, Que.
COTTONS
*Dominion Textile Co., Ltd., Montreal, Que.
*Montreal Cottons, Ltd., Valleyfield, P.Q.
COTTONADES
Hamilton Cotton Co., Hamilton, Ont.
COUPLERS
*Canadian Steel Foundries, Ltd., Welland, Ont.
COUPLINGS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
CRANES
*Northern Crane Works, Walkerville, Ont.
*The Herbert Morris Crane and Hoist Co., Ltd., Niagara Falls, Ont.
CRANKSHAFTS
Canada Forge Co., Ltd., Welland, Ont.
*The John Whitfield Co., Toronto, Ont.
CREAM CHEESE, Ingersoll
The Ingersoll Packing Co., Ltd., Ingersoll, Ont.
CREAM SEPARATORS AND MILK CLARIFIERS
De Laval Dairy Supply Co., Peterboro, Ont.
The Renfrew Machinery Co., Ltd., Renfrew, Ont.
CREAMERY AND CHEESE FACTORY MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
CREOSOTED MATERIALS
*The Barrett Co., Ltd., Toronto and Montreal.
CRUCIBLES, plumbago
Dominion Crucible Co., Ltd., Montreal, Que.
CRUSHED STONE
The Hagersville Contracting Co., Ltd., Hagersville, Ont.
CUPOLAS
*Sheldons, Ltd., Galt, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
CUPS, presentation
Standard Silver Co., Toronto, Ont.
CURLED HAIR
*Delany & Pettit, Ltd., Toronto.
CURTAINS, chenille
Hamilton Cotton Co., Hamilton, Ont.
CUTLERY
Standard Silver Co., Toronto, Ont.
CUTTERS, machine
*Pratt & Whitney Co., Dundas, Ont.
DASHES, for buggy and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
DECALCOMANIA TRANSFERS
Canada Decalcomania Co., Toronto, Ont.
DECK PLUGS, electric marine
*Crouse-Hinds Co., Ltd., Toronto.
DENIMS
Hamilton Cotton Co., Hamilton, Ont.
DERAILS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
DESIGNERS
Ontario Engraving Co., Hamilton, Ont.
DESIGNERS AND PRINTERS OF BOOKLETS, Etc.
Grip, Ltd., Toronto, Ont.

DESKS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
DESICCATED VEGETABLES
Grahams, Ltd., Belleville, Ont.
DINING ROOM SUITES
The George McLagan Furniture Co., Ltd., Stratford, Ont.
DIES
*Butterfield & Co., Rock Island, P.Q.
*Pratt & Whitney Co., Dundas, Ont.
*John Whitfield Co., Toronto.
DISINFECTING APPARATUS
Spramotor Co., London, Ont.
DOOR HANGERS
*Richards Wilcox Canadian Co., Ltd., London, Ont.
DOUBLETREES
*McKinnon Industries, Ltd., St. Catharines, Ont.
DREDGES
*M. Beatty & Sons, Ltd., Welland, Ont.
DRESSING, belt
Sadler & Haworth, Montreal, Que.
DRESS AND CLOAK TRIMMINGS
J. Henry Peters Co., 1 Mincing St., Toronto, Ont.
DRIFT BOLT DRIVERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILL PRESSES
*Canada Machinery Corporation, Ltd., Galt, Ont.
DRILL SHARPENERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILLS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*Pratt & Whitney Co., Dundas, Ont.
DRILLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILLS, rock
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRIFT BOLTS OR SPIKES
London Rolling Mill Co., Ltd., London, Ont.
DROP FORGINGS.
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
DROP HAMMERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
DRUMS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
DRY COLORS
P. D. Dods & Co., Ltd., Montreal.
The Imperial Varnish & Color Co., Ltd., Toronto.
R. C. Jamieson & Co., Ltd., Montreal, Que.
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
DUMB WAITERS
Turnbull Elevator Mfg. Co., Toronto, Ont.
DURABLE WIRE ROPE
The Dominion Wire Rope Co., Ltd., Montreal, Que.
DYNAMITE
Canadian Explosives, Ltd., Montreal, Que.
DYNAMOS
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
DYNAMOS, plating
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
EIDERDOWN
Galt Knitting Co., Ltd., Galt, Ont.
ELECTRIC APPLIANCES
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
ELECTRICAL COMPOUNDS
Standard Paint Co. of Canada, Ltd., Montreal, Que.
ELECTRIC COOKING APPLIANCES
*Canadian General Electric Company, Ltd., Toronto.
ELECTRIC LAMPS
Packard Electric Co., Ltd., Toronto, Ont.

ELECTRIC PLATE WARE
Roden Bros., Ltd., Toronto, Ont.
ELECTRIC BRANDING TOOLS
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
ELECTRIC RAILWAY EQUIPMENT
*Crouse-Hinds Co., Ltd., Toronto.
ELECTRODES, carbon
Canadian National Carbon Co., Ltd., Toronto, Ont.
ELECTROTYPING
Central Press Agency, Ltd., Toronto.
ELECTRICAL SUPPLIES
*Canadian General Electric Company, Ltd., Toronto, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
*Jones & Moore Electric Co., Ltd.,
*Northern Electric Co., Ltd., Montreal, Que.
ELECTRIC SOLDERING IRON
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
ELECTRO-SILVER PLATED WARE
Standard Silver Co., Toronto, Ont.
ELEVATING MACHINERY
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto, Ont.
ELEVATORS
*Jenckes Machine Co., Sherbrooke, Que.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
Turnbull Elevator Mfg. Co., Toronto, Ont.
*The Waterous Engine Works Co., Ltd,, Brantford, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
ELEVATORS FOR ALL PURPOSES
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
ELEVATOR GATES AND DOORS
Turnbull Elevator Mfg. Co., Ltd., Toronto, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
ELEVATOR GUARDS
*The Geo. B. Meadows, Toronto.
Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
*Canada Wire and Iron Goods Co., Hamilton, Ont.
EMERY DRESSERS AND STANDS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY GRINDERS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY WHEELS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY WHEEL GUARDS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
ENAMELS
R. C. Jamieson & Co., Ltd., Montreal, Que.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
ENAMEL MANUFACTURERS AND DECORATORS
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
ENAMEL AND TIN WARE
McClary Mfg. Co., London, Ont.
ENGINES
*E. Leonard & Sons, London, Ont.
*Goldie & McCulloch Co., Lt., Galt, Ont.
J. & R. Weir, Montreal, Que.
*Lauzon Engineering, Ltd., Levis, Que.
*Sheldons, Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
ENGINES, gas and gasoline
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*Hamilton Motor Works, Ltd., Hamilton, Ont.
*Massey-Harris Co., Ltd., Toronto.
ENGINES, gasoline, tractor, plowing and threshing
*Sawyer-Massey Co., Ltd., Hamilton, Ont.
ENGINES, hoisting
*M. Beatty & Sons, Welland, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

*For Display Advertisement see Index, Page 45

ENGINES, marine, gasoline and kerosene
Bruce, Stewart & Co., Ltd., Charlottetown, P.E.I.
ENGINES, steam plowing and threshing
*Sawyer-Massey Co., Ltd., Hamilton, Ont.
ELECTRICAL AND GAS FIXTURES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
*Tallman, Brass & Metal Co., Hamilton, Ont.
ELECTRIC HEATING APPLIANCES
*Canadian General Electric Co., Ltd., Toronto, Ont.
ENGRAVERS, photo
Grip, Ltd., Toronto, Ont.
Ontario Engraving Co., Hamilton, Ont.
The Mortimer Co., Ltd., Ottawa.
ENGRAVERS, half-tone
Grip, Ltd., Toronto.
Ontario Engraving Co., Hamilton, Ont.
ENGRAVERS, wood
Ontario Engraving Co., Hamilton, Ont.
ENGRAVERS AND PRINTERS steel plate
American Bank Note Co., Ottawa, Ont.
ENGRAVERS AND PRINTERS bank note
American Bank Note Co., Ottawa, Ont.
ENGRAVING
*J. L. Jones Engraving Co., Toronto, Ont.
ENGRAVING, copper and steel plate
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
ENSILAGE AND STRAW CUTTERS
J. Fleury's Sons, Aurora, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
EVAPORATED APPLES
Grahams, Ltd., Belleville, Ont.
ENVELOPES
Barber-Ellis Co., Ltd., Toronto.
Canada Envelope Co., Montreal, Que.
EVENERS, for 2, 3, 4, 6 and 8 horses
*McKinnon Industries, Ltd., St. Catharines, Ont.
EXCELSIOR
*Delany & Pettit, Ltd., Toronto.
EXCELSIOR PADS
Parmenter & Bulloch Co., Ltd., Gananoque, Ont.
EXPERTS IN PATENT CAUSES
Ridout & Maybee, Toronto, Ont.
EXPLOSIVES, high
Canadian Explosives, Ltd., Montreal, Que.
FACE PLATE JAWS
Ker & Goodwin, Brantford, Ont.
FACTORY SUPPLIES, cheese and creamery
De Laval Dairy Supply Co., Ltd., Montreal, Que.
FANS
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
FASTENERS, belt
*Sadler & Haworth, Montreal, Que.
FELTS, pulp and paper makers
Ayers, Ltd., Lachute Mills, P.Q.
*Beveridge Paper Co., Ltd., Montreal, Que.
FENCES AND GATES
*Dennis Wire & Iron Works Co., London, Ont.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
FENCING AND GATES, woven wire
*Canada Wire and Iron Goods Co., Hamilton, Ont.
FENCING, wire
C. H. Johnson & Sons, Ltd., Montreal, Que.
FENDERS, for buggy and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
FIBRE PAILS
*The E. B. Eddy Co., Ltd., Hull, Que.

FILES
Henry Disston & Sons, Ltd., Toronto, Ont.
*The Nicholson File Co., Port Hope.
FILING CABINETS
*Office Specialty Co., Newmarket, Ont.
FILING EQUIPMENT, wood & steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
FILING SYSTEMS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
Lowe-Martin Co., Ltd., Ottawa, Ont.
FIRE ALARMS
*Northern Electric Co., Ltd., Montreal, Que.
FIRE BRICK
Dominion Fire Brick & Clay Products, Ltd., Moose Jaw, Sask.
FIRE BRICK AND CLAY
Dominion Fire Brick & Clay Products, Ltd., Moose Jaw, Sask.
FIRECLAY
Jas. W. Foley & Co., St. John, N.B.
FIRE DOOR HARDWARE
Richards Wilcox Canadian Co., Ltd., London, Ont.
FIRE DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People, Ltd., Oshawa, Ont.
FIRE ENGINES
*Waterous Engine Works Co., Ltd., Brantford, Ont.
FIRE ESCAPES
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
FIRE EXTINGUISHERS
*A. B. Ormsby Co., Ltd., Toronto.
*Booth-Coulter Copper & Brass Co., Ltd., Montreal, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
FIRE FIGHTING APPARATUS
*Waterous Engine Works Co., Ltd., Brantford, Ont.
FIRE HOSE
*Canadian Consolidated Rubber Co. of Canada, Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber, Ltd., Toronto, Ont.
FIRE PREVENTION MATERIAL
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*Eureka Mineral Wool & Asbestos Co., Toronto.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
FIRE PROOF WINDOWS AND DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
FIRE SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy Mansell Co., Toronto, Ont.
*H. G. Vogel Co., Montreal, Que.
FIRE AND WATER DEPARTMENT
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
The Garth Co., Montreal, Que.
FISH, Atlantic Sea-Foods
Maritime Fish Corporation, Ltd., Montreal, Que.
FITTINGS FOR SOIL PIPE
Anthes Foundry, Ltd., Toronto.
FITTINGS, steam
Warden King Ltd., Montreal, Que.
FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.
FLAGS
*Scythes & Co., Ltd., Toronto, Ont.
FLANGES, for wheels
*McKinnon Industries, Ltd., St. Catharines, Ont.
FLOODLIGHTS, electric
*Crouse-Hinds Co., Ltd., Toronto.
FLOORING, hardwood
Seaman Kent Co., Ltd., Meaford, Ont.
FLOUR MILL MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
FLUE LINERS
Standard Clay Products, Ltd., St. Johns, Que.

FORGES
*Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
*Sheldons, Ltd., Galt, Ont.
FORGINGS
Canada Forge Co., Ltd., Welland, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
*The John Whitfield Co., Toronto.
FORGINGS, drop
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
FOUNDRY EQUIPMENT
*Northern Crane Works, Ltd., Walkerville, Ont.
FOUNTAIN FRUITS AND JUICES
J. J. McLaughlin, Ltd., Toronto.
FOUNTAINS, drinking
*Mueller Mfg. Co., Ltd., Sarnia, Ont.
FRICTION CLUTCH PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.
FROGS AND CROSSINGS, manganese
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.
FUEL
Standard Fuel Co., Toronto, Ont.
FUR GARMENTS, men's and women's
Holt, Renfrew, Ltd., Quebec.
FUR GOODS
John W. Peck & Co., Ltd., Montreal, Que.
FUR TRIMMINGS, ornaments and buttons
J. Henry Peters Co., 1 Mincing St., Toronto, Ont.
FURNACES
McClary Mfg. Co., London, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
FURNITURE, hall
The George McLagan Furniture Co., Ltd., Stratford, Ont.
FURNITURE, office
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.
FURNITURE, reed and rattan
Imperial Rattan Co., Ltd., Stratford, Ont.
FUSE BOXES
*Crouse-Hinds Co., Ltd., Toronto.
FUSE PLUGS AND FUSES, refillable
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
FUSES
*Economy Fuse & Mfg. Co., Montreal, Que.
GALVANIZED IRON
*A. C. Leslie & Co., Montreal.
GALVANIZED SHEETS
*Dominion Sheet Metal Co., Hamilton, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
GALVANIZERS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*The Pedlar People, Ltd., Oshawa.
*McKinnon Industries, Ltd., St. Catharines, Ont.
GASOLINE ENGINES
*Ontario Wind & Pump Co., Ltd., Toronto, Ont.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
GASOLINE FIRE ENGINES
*Waterous Engine Works Co., Ltd., Brantford, Ont.
GASOLINE STORAGE SYSTEMS, special underground
S. F. Bowser & Co., Toronto.
*Steel Trough & Machine Co., Ltd., Tweed, Ont.
GASOLINE
*The Imperial Oil Co., Ltd., Toronto, Ont.
GAUGES
*Brown Engineering Corporation, Toronto, Ont.
*John Whitfield Co., Toronto.

GEARS, cut
*Brown Engineering Corporation, Toronto, Ont.
*Hamilton Gear and Machine, Toronto.
*Winnipeg Gear & Engineering Co., Ltd., Winnipeg, Man.
*The John Whitfield Co., Toronto.
GELATINE
Canada Gelatine Co., Ltd., Brantford, Ont.
GENERATORS
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
GENERATORS, electric
*Canadian General Electric Co., Ltd., Toronto.
GILDING METAL
*Dominion Copper Products Co., Ltd., Montreal, Que.
GLASSWARE
Dominion Glass Co., Ltd., Montreal, Que.
GLASSWARE, cut
Roden Bros., Ltd., Toronto.
GLASS FOR BUILDINGS
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLASS BENDERS
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLASS, mirror
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLOVES AND MITTS
*A. R. Clarke & Co., Ltd., Toronto.
Craig, Cowan Co., Ltd., Toronto.
GLUE
Canada Glue Co., Ltd., Brantford, Ont.
*Delany & Pettit, Ltd., Toronto.
GOLD-FILLED WIRE AND PLATE
Canadian Seamless Wire Co., Toronto, Ont.
GOLD AND SILVER REFINERS
Canadian Seamless Wire Co., Toronto, Ont.
GRAIN CRUSHERS, rapid, easy
J. Fleury's Sons, Aurora, Ont.
GRAPE JUICE
J. J. McLaughlin, Ltd., Toronto.
The Welch Co., Ltd., St. Catharines, Ont.
GRATES
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
GRAVITY CARRIERS
*Canadian Mathews Gravity Carrier Co., Toronto, Ont.
GREASES
*Dominion Oil Co., Ltd., Hamilton, Ont.
GRILLES, metal
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
GRINDER, bench
Bond Engineering Co., Toronto.
GRINDERS, portable
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
GRINDERS, pedestal and bench
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
GRINDING AND POLISHING MACHINERY
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
GRINDING WHEELS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
*The Dominion Abrasive Wheel Co., Ltd., New Toronto, Ont.
GRINDSTONES
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
GUARDS, conduit
*Crouse-Hinds Co., Ltd., Toronto.
GUNN SECTIONAL BOOKCASES
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
GUY ANCHORS
B. J. Coghlin Co., Ltd., Montreal.
GUL RODS
*Crouse-Hinds Co., Ltd., Toronto.
GYPSUM, crushed
*Albert Mfg. Co., Hillsborough, N.B.
GYPSUM PRODUCTS
*Manitoba Gypsum Co., Ltd., Winnipeg, Man.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.

*For Display Advertisement see Index, Page 45

HACK SAW BLADES AND FRAMES
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HACK SAW MACHINES
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HALL FURNITURE
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
HAMS
F. W. Fearman Co., Ltd., Hamilton, Ont.
HAMES, steel and iron
*McKinnon Industries, Ltd., St. Catharines, Ont.
HANDLES (axe, pick, sledge hammers, etc.)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.
HANDLES, wood
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
*Toy products, Ltd., Farm Point, Que.
HAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HANGERS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
HARDWARE
*Richards - Wilcox Canadian Co., Ltd., London, Ont.
Taylor-Forbes Co., Ltd., Guelph, Ont.
The Jas. Smart Mfg. Co., Ltd. Brockville, Ont.
HARNESS
Lamontagne, Ltd., Montreal, Que.
HATS, men's straw
The Crown Hat Co., Ltd., Galt, Ont.
HARNESS HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.
HATS, ladies' and children's straw
The Crown Hat Co., Ltd., Galt, Ont.
HATS, ladies' and children's felt and beaver
The Crown Hat Co., Ltd., Galt, Ont.
HATS, ladies' felt and straw
Toronto Hat Mfg. Co., Toronto.
HAULAGE, wire rope
The Dominion Wire Rope Co., Ltd., Montreal, Que.
HEADING SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HEADLIGHT, electric
*Crouse-Hinds Co., Ltd., Toronto.
HEATERS
*Waterous Engine Works Co., Ltd., Brantford, Ont.
HEATERS, feed water
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
HEATING APPLIANCES
*C. A. Dunham Co., Ltd., Toronto.
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
HEATING SYSTEMS
*C. A. Dunham Co., Ltd., Toronto.
HEMLOCK, union and oak sole
Breithaupt Leather Co., Ltd., Kitchener, Ont.
HESSIANS
The Canadian Bag Co., Ltd., Montreal, Que.
*Scythes & Co., Ltd., Toronto.
HINGES
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
HOISTS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOISTS, electric and pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOISTING MACHINERY
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.

HOOKS, for logging chains
*McKinnon Industries, Ltd., St. Catharines, Ont.
HOSE, fire
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber, Ltd., Toronto, Ont.
HOSE, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd.
HUB CAPS
*McKinnon Industries, Ltd., St. Catharines, Ont.
HUBS, for Ford cars
*McKinnon Industries, Ltd., St. Catharines, Ont.
HYDRAULIC PRESSES
*Bawden Machine Co., Ltd., Toronto, Ont.
*William R. Perrin, Ltd., Toronto
HYDRO-ELECTRIC PLANTS
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
ICE CREEPERS
Parmenter & Bulloch Co., Ltd., Gananoque, Ont.
ICE-MAKING MACHINERY
The Linde Canadian Refrigeration Co., Ltd., Montreal, Que.
INCUBATORS AND BROODERS
Lee Mfg. Co., Ltd., Pembroke, Ont.
INGOT METALS
*Brown's Copper & Brass Rolling Mills, Ltd., New Toronto, Ont.
INSERTED TOOTH SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
INSULATING COMPOUNDS
The Imperial Varnish & Color Co., Ltd., Toronto.
INSULATORS
*Crouse-Hinds Co., Ltd., Toronto.
INTERLOCKING RUBBER TILING
*Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd., Toronto, Ont.
INVERTS
Standard Clay Products, Ltd., St. Johns, Que.
IRON
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
IRON, refined bar
Starr Mfg. Co., Ltd., Dartmouth, N.S.
IRON AND STEEL BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
IRON STAIRWAYS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
IRONWORK, architectural
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
IRONWORK, ornamental
*Canada Wire & Iron Goods Co., Hamilton, Ont.
IRON, LEAD AND PUTTY
A. R. Whittall, Montreal, Que.
IRON PUMPS
*Medicine Hat Pump and Brass Mfg. Co., Medicine Hat, Alta.
JACKS
*Globe Engineering Co., Ltd., Hamilton, Ont.
JAM, canned goods, etc.
E. D. Smith & Son, Ltd.
JAPANS, enamels, etc.
A. Muirhead Co., Ltd., Toronto.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
JIGS AND TOOLS
*Brown Engineering Corporation, Toronto, Ont.
JOINTERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
JELLY POWDER
S. H. Ewing & Sons, Montreal.

JEWELRY, enamelled souvenir
Caron Bros., Montreal, Que.
JEWELRY, gold-filled
Caron Bros., Montreal, Que.
JOIST HANGERS
*Richards - Wilcox Canadian Co., Ltd., London, Ont.
JUNCTION BOXES, cable
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
KELSEY WARM AIR GENERATOR
The Jas. Smart Mfg. Co., Limited, Brockville, Ont.
KILNS
*Sheldons, Ltd., Galt, Ont.
KINDLING
Standard Fuel Co., Toronto, Ont.
KNIFE GRINDERS
*Canada Machinery Corporation Ltd., Galt, Ont.
*W. H. Banfield & Sons, Toronto.
KNITTED GOODS
*Penman's, Ltd., Paris, Ont.
KNIVES
*Galt Knife Co., Ltd.
*The Peter Hay Knife Co., Ltd., Galt, Ont.
Simonds Canada Saw Co., Ltd., Montreal, Que.
KNIVES, pulp and paper
Henry Disston & Sons, Toronto.
*The Peter Hay Knife Co., Ltd., Galt, Ont.
KODAKS AND PHOTOGRAPHIC SUPPLIES
Canadian Kodak Co., Ltd., Toronto.
LABELS
Lawson & Jones, Ltd., London, Ont.
LABELS, lithographed
Harris Lithographing Co., Ltd., Toronto, Ont.
LABORATORY SUPPLIES
Canadian Laboratory Supplies, Ltd., Toronto.
LACE LEATHER
F. C. McCordick, St. Catharines, Ont.
*Sadler & Haworth, Montreal, Que.
*The D. K. McLaren Belting Co., Ltd., Montreal, Que.
*The J. C. McLaren Belting Co., Ltd., Montreal, Que.
LADDERS
Stratford Mfg. Co., Ltd., Stratford., Ont.
LADDERS, step
*Otterville Mfg. Co., Ltd., Otterville, Ont.
LADLES, foundry
*Northern Crane Works, Ltd., Walkerville, Ont.
LAMP GLOBES
*Crouse-Hinds Co., Ltd., Toronto.
LARD
F. W. Fearman Co., Ltd., Hamilton, Ont.
LATH
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
LATHE CHUCKS
Ker & Goodwin, Brantford, Ont.
LATHE-DOGS
Canadian Billings & Spencer, Ltd., Welland, Ont.
LATHES
*Canada Machinery Corporation, Ltd., Galt, Ont.
LAUNCHES
Peterboro Canoe Co., Ltd., Peterboro, Ont.
LAWN MOWERS
Taylor-Forbes Co., Ltd., Guelph, Ont.
LAWN SWINGS
Stratford Mfg. Co., Ltd., Stratford, Ont.
LAVATORIES, enameled
Amherst Foundry Co., Ltd., Amherst, N.S.
LAUNDRY SINKS
Amherst Foundry Co., Ltd., Amherst, N.S.
LEAD
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
LEAD GRINDERS
Benjamin Moore & Co., Ltd., Toronto, Ont.
LEAD PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
*The Canada Metal Co., Toronto.

LEAD SHEET
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
LEATHER
The Robson Leather Co., Ltd., Oshawa, Ont.
LEATHER, bookbinders'
Clarke & Clarke, Ltd., Toronto.
LEATHER DASHES & FENDERS
*McKinnon Industries, Ltd., St. Catharines, Ont.
LEATHER, fancy
Clarke & Clarke, Ltd., Toronto.
LEATHER GOODS
Lamontagne, Ltd., Montreal, Que.
LEATHER, hemlock, union and oak sole
The Breithaupt Leather Co., Ltd., Kitchener, Ont.
LEATHER, patent colt and side leather
*A. R. Clarke & Co., Ltd., Toronto.
LEATHER, sheep skin, etc.
Clarke & Clarke, Ltd., Toronto.
LEATHER, upholstering
Clarke & Clarke, Ltd., Toronto.
LEATHER, upper
A. Davis & Son., Ltd., Kingston, Ont.
King Brothers Co., Ltd., Whitby, Ont.
LIGHTS, marine, side and port
*Crouse-Hinds Co., Ltd., Toronto.
LINK BELT, Ewart, and sawmill riveted
*Canadian Link-Belt Co., Toronto.
LINK BELTING
*The Dodge Mfg. Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
LINOLEUM
Dominion Oil Cloth Co., Ltd., Montreal, Que.
LITHOGRAPHED BUSINESS STATIONERY
Business Systems, Ltd., Toronto.
LITHOGRAPHERS
American Bank Note Co., Ottawa, Ont.
Harris Lithographing Co., Ltd., Toronto, Ont.
The Mortimer Co., Ltd., Ottawa, Ont.
LOCKERS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*Geo. B. Meadows, Wire, Iron and Brass Works Co., Toronto, Ont.
LOCOMOTIVE BLOCKS
Standard Clay Products, Ltd., St. Johns, Que.
LOCOMOTIVES, industrial
*Montreal Locomotive Works, Ltd., Montreal, Que.
LOCOMOTIVE & MARINE BRASS WORKS
The James Morrison Brass Mfg. Co., Ltd., Toronto.
LOGGING CHAIN HOOKS
*McKinnon Industries, Ltd., St. Catharines, Ont.
LOOSE LEAF BINDERS AND FORMS
Business Systems, Ltd., Toronto.
LOOSE LEAF SYSTEMS
Copeland - Chatterson Co., Ltd., Brampton, Ont.
Lowe-Martin Co., Ottawa, Ont.
LOOSE LEAF SUPPLIES
The Esdale Press, Ltd., Edmonton, Alta.
LUBRICATORS, steam sight feed
Penberthy Injector Co., Ltd., Windsor, Ont.
LUGS, for silos and water tanks
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
LUMBER
*Brown Corporation, La Tuque, Que.
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
G. & J. Esplen, Montreal, Que.
LUMBER, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

* For Display Advertisement see Index, Page 45

LUMBER, spruce and pine, cedar railway ties and shingles
Bathurst Lumber Co., Ltd., Bathurst, N.B.
LUMBERING BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
LUMBER, red pine and spruce
Gillies Bros., Ltd., Braeside, Ont.
LUMBER, spruce, fir, larch and cedar
Fernie Lumber Co., Ltd., Fernie, B.C.
LUMBER, White pine
Gillies Bros., Ltd., Braeside, Ont.
MACHINE KNIVES
*Galt Knife Co., Ltd.
*E. C. Atkins & Co., Inc., Hamilton, Ont.
Henry Disston & Sons, Toronto.
MACHINE TOOLS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINE WORK, special and repairs
*Canadian Rumely Co., Ltd., Toronto, Ont.
*The John Whitfield Co., Toronto.
MACHINERY AND UTENSILS FOR BAKERS
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY AND UTENSILS FOR CANDY
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY AND UTENSILS FOR ICE CREAM
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY, conveying
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, flour mill
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, grinding
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
J. & R. Weir, Montreal, Que.
*M. Beatty & Sons, Ltd., Welland.
*Northern Crane Works, Ltd., Walkerville, Ont.
MACHINERY, ice cream
J. J. McLaughlin, Ltd., Toronto.
MACHINERY, iron working
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, pulp mill
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
MACHINERY, punching and shearing
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, railroad and car-shop
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, roadmaking
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
Sawyer-Massey Co., Ltd., Hamilton, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
MACHINERY, sawmill
The E. Long Mfg. Co., Ltd., Orillia, Ont.
P. Payette & Co., Pentanguishene, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
*Yates, P. B., Machine Co., Ltd., Hamilton, Ont.
MACHINERY, sheet metal working
Brown, Boggs Co., Ltd., Hamilton, Ont.
*Canada Machinery Corporation, Ltd., Galt, Ont.
MACHINERY, special
Bawdon Machine Co., Ltd., Toronto.
*The John Whitfield Co., Toronto, Ont.
MACHINERY, transmission
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, woodworking
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Yates, P. B., Machine Co., Ltd., Hamilton, Ont.
Preston Woodworking Machinery Co., Ltd., Preston, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
MACHINE WORK, special and repairs
*Canadian Rumely Co., Ltd., Toronto, Ont.
*John Whitfield Co., Toronto, Ont.
MACHINE WRENCHES
*Canadian Billings & Spencer, Ltd., Welland, Ont.
MACHINES, painting
Spramotor Co., London, Ont.
MAGNESITE
Canadian Carbonate Co., Montreal, Que.
MALT
*Hiram Walker & Sons, Ltd., Walkerville, Ont.
MALLEABLE, for carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
MALLEABLE IRON CASTINGS
*McKinnon Industries, Ltd., St. Catharines, Ont.
Galt Malleable Iron Co., Ltd., Galt, Ont.
MAPLE PRODUCTS
*Maples, Ltd., Toronto, Ont.
MARTINGALE RINGS AND SLIDE LOOPS
The Arlington Co. of Canada, Ltd., Toronto, Ont.
MATCHERS
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
MATCHES
*The E. B. Eddy Co., Ltd., Hull, Que.
MECHANICAL STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto.
MEDICINES, patented and pharmaceutical
Dr. Ed. Morin & Cie., Ltd., Quebec.
METAL, babbitt
*Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
Alonzo W. Spooner, Ltd., Port Hope, Ont.
METAL CEILINGS
*The Pedlar People, Ltd., Oshawa, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
METAL LATH
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.
METAL PACKING
*Garlock Packing Co., Hamilton, Ont.
METAL, spinning and stamping
The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
METAL SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
METAL SHINGLES
*The Pedlar People, Ltd., Oshawa, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
METAL STAMPINGS
Canadian Cartridge Co., Ltd., Hamilton, Ont.
METERS, water
Canadian Cartridge Co., Ltd., Hamilton, Ont.
MILK DEALERS' MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
MILLBOARD, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.
MILLING CUTTERS
Pratt & Whitney Co. of Canada, Dundas, Ont.
MINING MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
MITTS AND GLOVES, Indian, tan, red deerskins
Holt, Renfrew, Ltd., Quebec, Que.
A. R. Clarke & Co., Ltd., Toronto.
MIXERS, chocolate, dough and paint
Fletcher Mfg. Co., Ltd., Toronto.
MOCCASINS AND SLIPPERS, Indian tanned leathers
Holt, Renfrew, Ltd., Quebec, Que.
MORTISERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
MOTOR CARS
*Ford Co. of Canada, Ford, Ont.
MOTORS, electric
*Canadian General Electric Co., Ltd., Toronto, Ont.
MOTORS, electric (alternating current)
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*T. & H. Electric Co., Hamilton, Ont.
MOTORS, electric (direct current)
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*T. & H. Electric Co., Hamilton.
MOTORS, electric (repairing)
Consolidated Electric Co., Ltd., Toronto, Ont.
*T. & H. Electric Co., Hamilton.
MOTORS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
MOULDERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
NAILS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
NAILS, copper
Parmenter & Bullock Co., Ltd., Gananoque, Ont.
NAILS, wire
Parmenter & Bullock Co., Ltd., Gananoque, Ont.
The Graham Nail Works, Toronto.
NAPHTHA
*The Imperial Oil Co., Ltd., Toronto, Ont.
NECK YOKES
*McKinnon Industries, Ltd., St. Catharines, Ont.
NICKEL OXIDE
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
Coniagas Reduction Co., Ltd., St. Catharines, Ont.
NICKEL METAL
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
NIPPLES, for radiators
*McKinnon Industries, Ltd., St. Catharines, Ont.
NUTS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*United Brass & Lead, Ltd., Toronto, Ont.
OAKUM, plumbers, Canadian Navy
Factory Waste & Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto, Ont.
OARLOCKS
*McKinnon Industries, Ltd., St. Catharines, Ont.
OAT CRUSHERS AND FLAKERS
J. Fleury's Sons, Aurora, Ont.
OFFICE DESKS
*Goderich Organ Co., Goderich, Ont.
OFFICE EQUIPMENT
Lowe-Martin Co., Ltd., Ottawa, Ont.
*Office Specialty Co., Newmarket, Ont.
OFFICE FURNITURE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
OILS
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal, Que.
Sherwin-Williams Co. of Canada, Ltd., Montreal, Que.
OIL FILTRATION AND CIRCULATING SYSTEMS
S. F. Bowser & Co., Toronto, Ont.
OIL STORAGE SYSTEMS, self-measuring
S. F. Bowser & Co., Toronto.
OIL COMPANIES
*Canadian Oil Cos., Toronto.
Commercial Oil Co., Ltd., Hamilton, Ont.
*Imperial Oil Co., Toronto.
OILS (petroleum products)
*British American Oil Co., Ltd., Toronto, Ont.
*Dominion Oil Co., Ltd., Hamilton, Ont.
*The Imperial Oil Co., Toronto.
OILS, road
*The Barrett Co., Ltd., Toronto and Montreal.
OIL HOLE COVERS
*Canadian Winkley Co., Ltd., Windsor, Ont.
OIL CUPS, both screw top and hinge lid
*Canadian Winkley Co., Ltd., Windsor, Ont.
OILCLOTHS, floor and table
Dominion Oil Cloth Co., Ltd., Montreal, Que.
ORGANS
*Goderich Organ Co., Goderich, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
ORGANS, pipe
Casavant Freres, St. Hyacinthe, Que.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
ORGANS, parlor
*Goderich Organ Co., Goderich, Ont.
ORNAMENTAL IRON WORK
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*The Geo. B. Meadows, Toronto Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
OVERALLS
Peerless Overall Co., Rock Island, Que.
Walker Pant & Shirt Co., Walkerville and Chatham, Ont.
The Standard Shirt Co., Ltd., Montreal, Que.
OVERCOATINGS
Rosamond Woollen Co., Almonte, Ont.
OVERHEAD RUNWAYS
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
OXY-ACETYLENE WELDING
*L'Air Liquide Society, Montreal, Que.
*The Prest-O-Lite Co., Inc., Toronto.
OXYGEN
*L'Air Liquide Society, Montreal, Que.
PACKING BOXES
Barchard & Co., Ltd., Toronto.
PACKING, engine
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Garlock Packing Co., Hamilton, Ont.
PACKING, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Jenkins Bros., Ltd., Montreal, Que.

*For Display Advertisement see Index, Page 45

PAILS AND TUBS, wooden
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
PAINTERS' SUPPLIES
A. Muirhead Co., Ltd., Toronto.
PAINTS
R. C. Jamieson & Co., Ltd., Montreal, Que.
PAINTS AND VARNISHES
A. Muirhead Co., Ltd., Toronto.
Benjamin Moore & Co., Ltd., Toronto, Ont.
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
The Staneland Co., Ltd., Victoria, B.C.
A. Ramsay & Sons Co., Montreal, Que.
Standard Paint Co. of Canada, Ltd., Montreal, Que.
PAINTS, barn and bridge
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
PAINTS, preservative
Standard Paint Co. of Canada, Ltd., Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.
PANELBOARDS
*Crouse-Hinds Co., Ltd., Toronto.
PAPER, book
Barber Paper & Coating Mills, Ltd., Georgetown, Ont.
PAPER BOXES
King Paper Box Co., Ltd., Montreal, Que.
*Rudd Paper Box Co., Ltd., Toronto, Ont.
PAPER, coated, book and label
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, coated box board
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, coated cover
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, envelope
*Provincial Paper Mills, Ltd., Georgetown, Ont.
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPER, enamelled blotting
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, label
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, ledger
*Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPERBOARDS
*Canada Boxboard Co., Ltd., Montreal, Que.
PAPER, super-book
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPER, wall
Stauntons, Ltd., Toronto.
PAPER, waxed
Business Systems, Ltd., Toronto.
PAPER, writing
The Toronto Paper Mfg. Co., Cornwall, Ont.
Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
PAPERS, bond
*Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
PAPERS, building
Bathurst Lumber Co., Ltd., Bathurst, N.B.
*The Riordon Pulp & Paper Co., Montreal, Que.
Standard Paint Co. of Canada, Ltd., Montreal, Que.
PARK SEATS
Stratford Mfg. Co., Ltd., Stratford, Ont.
PARLOR SUNDRIES
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
PATENTS
Fetherstonhaugh & Co., Toronto.
Ridout & Maybee, Toronto. Ont.
*Harold C. Shipman & Co., Ottawa.
PATENT LITIGATION
Ridout & Maybee, Toronto, Ont.
*Harold C. Shipman & Co., Ottawa, Ont.
PATTERN MAKERS' BRASS DOWEL PINS
*Canadian Winkley Co., Ltd., Windsor, Ont.
PAY ROLL AUDITS
*International Business Machines, Ltd., Toronto, Ont.
PERFORATED METALS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
PERFORATED MUSIC ROLLS
The Otto Higel Co., Ltd., Toronto.
PERFUMES AND TOILET PREPARATIONS
Sovereign Perfumes, Ltd., Toronto.
PETROLEUM PRODUCTS
*The Imperial Oil Co., Ltd., Toronto, Ont.
PHOTO MAILERS
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
PIANOS
Dominion Organ & Piano Co., Ltd., Bowmanville, Ont.
*Gourlay, Winter & Leeming, Toronto, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIANO ACTIONS
The Otto Higel Co., Ltd., Toronto.
PIANO KEYS
The Otto Higel Co., Ltd., Toronto.
PIANOS, player
*Gourlay, Winter & Leeming, Toronto, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIANO, player actions
The Otto Higel Co., Ltd., Toronto.
PIANO STOOLS AND BENCHES
*Goderich Organ Co., Goderich, Ont.
PIG IRON
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
M. A. Hanna & Co., Toronto.
PINS, society, emblems and badges
Caron Bros., Montreal, Que.
PIPE, cast iron, for water and gas
National Iron Works, Ltd., Toronto, Ont.
PIPE COUPLINGS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
PIPE COVERINGS
*Eureka Mineral Wood & Asbestos Co., Toronto, Ont.
PIPE ORGANS
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIPES, culvert
Standard Clay Products, Ltd., St. John's, Que.
*The Pedlar People, Ltd., Oshawa, Ont.
PIPE AND NIPPLES, black and galvanized
*Canadian Tube & Iron Co., Ltd., Montreal, Que.
PIPE, sewer
Hamilton & Toronto Sewer Pipe Co., Ltd., Hamilton, Ont.
Standard Clay Products, Ltd., St. John's, Que.
PIPE, soil and fittings
Anthes Foundry, Ltd., Toronto and Winnipeg.
Warden King Ltd., Montreal, Que.
PIPE AND TUBES, wrought
*Page-Hersey Iron Tube & Lead Co., Ltd., Toronto, Ont.
PISTON RODS
*The Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.
PLANERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
PLANING MILLS
G. & J. Esplen, Montreal, Que.
PLASTERING TROWELS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
PLOWS
J. Fleury's Sons, Aurora, Ont.
PLUGS
*Crouse-Hinds Co., Ltd., Toronto.
PLUMBAGO, CRUCIBLES AND STOPPER HEADS
Dominion Crucible Co., Ltd., Montreal, Que.
PLUMBERS' SUPPLIES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
PLUMBING APPLIANCES
Standard Sanitary Mfg. Co., Ltd., Toronto, Ont.
PLUMBING SUPPLIES
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
PNEUMATIC DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
PNEUMATIC MACHINERY
*Canadian Ingersoll-Rand Co., Sherbrooke, P.Q.
POLE LINE MATERIAL (wooden insulator top pins, side blocks, pole steps, cross arms)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.
POLES, flag
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
POLES, telegraph and telephone, cedar
Fernie Lumber Co., Ltd., Fernie, B.C.
PORK PACKERS AND CHEESE EXPORTERS
The Ingersoll Packing Co., Ltd., Ingersoll, Ont.
POSTS, split cedar fence
Fernie Lumber Co., Ltd., Fernie, B.C.
POULTRY SUPPLIES AND MEDICINES
Lee Mfg. Co., Ltd., Pembroke, Ont.
POWDER, blasting
Canadian Explosives, Ltd., Montreal, Que.
POWER PRESSES
Hydraulic Machinery Co., Ltd., Montreal, Que.
*William R. Perrin, Ltd., Toronto.
PRESERVATIVE PAINT
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
PRESSES, baling and filter
*William R. Perrin, Ltd., Toronto.
PRESSES, hydraulic
Hydraulic Machinery Co., Ltd., Montreal, Que.
PRESSES, sheet metal stamping
Brown, Boggs Co., Ltd., Hamilton, Ont.
*Canada Machinery Corporation, Ltd., Galt, Ont.
PRESSES, veneer
*Canada Machinery Corporation, Ltd., Galt, Ont.
PRESSED STEEL AND BRASS GREASE CUPS
*Canadian Winkley Co., Ltd., Windsor, Ont.
Hydraulic Machinery Co., Ltd., Montreal, Que.
*William R. Perrin, Ltd., Toronto.
PRINTERS
Rous & Mann, Ltd., Toronto, Ont.
The Mortimer Co., Ltd., Ottawa, Ont.
PRINTING AND LITHOGRAPHING
Lawson & Jones, Ltd., London, Ont.
PULLEYS
Bond Engineering Co., Toronto.
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
PULLEYS, wood split
*Bernard Industrial Co., Fortierville, P.Q.
PULP, bleached sulphite
The Edward Partington Pulp & Paper Co., St. John, N.B.
Riordan Sales Co., Ltd., Montreal, Que.
PULP, unbleached sulphite
Riordan Sales Co., Ltd., Montreal,
PULP, sulphate and sulphite
Bathurst Lumber Co., Ltd., Bathurst, N.B.
PULP
*Brown Corporation, La Tuque, Que.
PUMPS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Bawden Machine Co., Ltd., Toronto, Ont.
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
Spramotor Co., London, Ont.
PUMPS, boiler feed
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Bawden Machine Co., Ltd., Toronto, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
PUMPS, centrifugal
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
PUMPS, turbine and reciprocating
*Bawden Machine Co., Ltd., Toronto, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
PUNCHES
*John Whitfield Co.,Toronto, Ont.
*Pratt & Whitney Co., Dundas,Ont.
PYROMETERS
*Canadian Hoskins Co., Walkerville, Ont.
RADIATORS
Taylor-Forbes Co., Ltd., Guelph, Ont.
Warden King, Ltd., Montreal, Que.
RAILINGS, brass and iron
*Dennis Wire & Iron Works Co., London, Ont.
RAILS, light
Hammant Steel Car & Engineering Works, Hamilton, Ont.
RAILWAY SIGNAL APPLIANCES
General Railway Signal Co. of Canada, Ltd., Montreal, Que.
RAILWAY SUPPLIES
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
B. J. Coghlin Co., Ltd., Montreal, Que.
RAILWAY TARIFF BINDERS
The Esdale Press, Ltd., Edmonton, Alta.
READY-TO-WEAR GARMENTS, ladies'
H. C. Boulter Co., Ltd., Toronto.
REAMERS
*Pratt & Whitney Co., Dundas, Ont.
*Butterfield & Co., Rock Island, P.Q.
RECEPTACLES
*Crouse-Hinds Co., Ltd., Toronto.
REED AND RATTAN GOODS
Canada Furniture Mfgs., Ltd., Woodstock, Ont.
REFRIGERATORS
Sanderson-Harold Co., Ltd., Paris, Ont.
Lee Mfg. Co., Ltd., Pembroke, Ont.
REFRIGERATING MACHINERY
The Linde Canadian Refrigeration Co., Ltd., Montreal, Que.
REFRIGERATORS, store, homes and institutions
Ham & Nott Co., Ltd., Brantford, Ont.
John Hillock & Co., Ltd., Toronto.
REINFORCEMENT BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Trussed Concrete Steel Co., Ltd., Walkerville, Ont.
REINFORCEMENT FOR CONCRETE
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
REINFORCEMENT FOR CONCRETE ROOFING, metal
*The Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co., Ltd., Walkerville, Ont.
REVOLVING DOORS
*A. B. Ormsby Co., Ltd., Toronto.
RINGS, gold
Caron Bros., Montreal, Que.
RIVETERS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
RIVETS
*Canadian Tube & Iron Co., Ltd., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal.
RIVETS, bifurcated and tubular
Parmenter & Bullock Co., Ltd., Gananoque, Ont.

*For Display Advertisement see Index, Page 45

RIVETS AND BURRS, iron, copper and brass
Parmenter & Bullock Co., Ltd., Gananoque, Ont.
ROCK DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
ROLLING STEEL DOORS
*A. B. Ormsby Co., Ltd., Toronto.
ROLL PRINTING
*Autographic Register Co., Ltd., Montreal, Que.
Business Systems, Ltd., Toronto.
ROOFING, metal
*A. B. Ormsby Co., Ltd., Toronto.
ROOFING, ready to lay
Standard Paint Co. of Canada, Ltd., Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.
ROOF TRUSSES
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal, Que.
ROPE
*Doon Twines, Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.
ROPE, cotton
Hamilton Cotton Co., Hamilton, Ont.
RUBBER FOOTWEAR
Ames Holden, McCready, Ltd., Montreal, Que.
*Gutta Percha & Rubber Ltd., Toronto, Ont.
The Miner Rubber Co., Ltd., Grandy, Que.
RUBBER GOODS
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Limited, Toronto.
RUBBER MOULDS
Bawden Machine Co., Ltd., Toronto, Ont.
RUBBER PACKING
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Garlock Packing Co., Hamilton, Ont.
RULES
The Lufkin Rule Co. of Canada, Ltd., Windsor, Ont.
SADDLERY HARDWARE
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McMinnon Industries, Ltd., St. Catharines, Ont.
SAFES
*Goldie & McCulloch Co., Ltd., Galt, Ont.
J. & J. Taylor, Ltd., Toronto.
SAMPLE CASES
The M. Langmuir Mfg. Co., of Toronto, Ltd., Toronto, Ont.
J. Eveleigh & Co., Ltd., Montreal, Que.
SAND RAMMERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
SANDPAPER
*Delaney & Pettit, Ltd., Toronto.
SASH CORD, cotton
Hamilton Cotton Co., Hamilton, Ont.
SALT
Canadian Salt Co., Ltd., Windsor, Ont.
*Dominion Salt Co., Ltd., Sarnia, Ont.
SANITARY PAPER TOWELS
*E. B. Eddy Co., Ltd., Hull, Que.
SAW SHARPENING MACHINERY
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
SAWS
*E. C. Atkins & Co., Ltd., Hamilton, Ont.
Henry Disston & Sons, Ltd., Toronto, Ont.
Shurly & Deitrich, Galt, Ont.
SAWS, cross-cut and band
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.
SAWS, circular mill
Shurly & Deitrich, Galt, Ont.
SAWS, hack
*Victor Saw Works, Ltd., Hamilton, Ont.
SAWS, of all kinds
Simonds Canada Saw Co., Ltd., Montreal, Que.
SAWS, rip
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.
SAWMILLS
G. & J. Esplen, Montreal, Que.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
SAW MILL MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
SAWS, specialties
*Victor Saw Works, Ltd., Hamilton, Ont.
SCALES
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton, Ont.
SCALES, counter
The Gurney Scale Co., Hamilton, Ont.
SCALES, railway track, etc.
The Gurney Scale Co., Hamilton, Ont.
SCREENS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
SCREEN DOORS AND WINDOWS
Sanderson-Harold Co., Ltd., Paris, Ont.
Ham & Nott Co., Ltd., Brantford, Ont.
SCREWS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal, Que.
SCREW PLATES
*Butterfield & Co., Rock Island, P.Q.
SECURITIES, engraved
American Bank Note Co., Ottawa, Ont.
SERGES
Rosamond Woollen Co., Almonte, Ont.
SHAFTING
Canada Forge Co., Ltd., Welland, Ont.
Bond Engineering Co., Toronto.
*Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.
*Dodge Mfg. Co., Ltd., Toronto.
SHANTY BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
SHAPERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
SHEAR BLADES, iron
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Ltd., Galt, Ont.
SHEATHING
*The Barrett Co., Ltd., Toronto and Montreal.
SHEATHING, asbestos corrugated
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.
SHEET METAL STAMPINGS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.
*W. H. Banfield & Sons, Ltd., Toronto, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
SHEETS, Etc.
*Tallhan Brass & Metal Co., Hamilton, Ont.
SHEETS, galvanized
*Dominion Sheet Metal Co., Ltd., Hamilton, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.
SHINGLES
Bathurst Lumber Co., Ltd., Bathurst, N.B.
SHINGLE SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
SHIP BUILDERS
J. & R. Weir, Montreal, Que.
SHIRTS
John W. Peck & Co., Ltd., Montreal, Que.
SHIRTS, workmen's
*A. R. Clarke & Co., Ltd., Toronto.
SHOE PEGWOOD
O. Chalifour, Quebec, Que.
SHOE LININGS
Galt Knitting Co., Ltd., Galt, Ont.
SHOES, running and athletic
Ames - Holden - McCready, Ltd., Montreal, Que.
SHOOKS
Barchard & Co., Ltd., Montreal.
SIGNAL CELLS
Canadian National Carbon Co., Ltd., Toronto.
SILENT CHAIN DRIVES
*Canadian Link-Belt Co., Toronto.
SILVER BULLION
Coniagas Reduction Co., Ltd., St. Catharines, Ont.
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
SILVERSMITH
Canadian Wm. A. Rogers, Ltd., Toronto, Ont.
Standard Silver Co., Toronto, Ont.
SILVERWARE, sterling
Roden Bros., Ltd., Toronto, Ont.
SINGLETREES
*McKinnon Industries, Ltd., St. Catharines, Ont.
SINKS, enamelled
Amherst Foundry Co., Ltd., Amherst, N.S.
SKATES, figure
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, genuine Acme
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, hockey
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, ice
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKIFFS
Peterboro Canoe Co., Ltd., Peterboro, Ont.
SKYLIGHTS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People, Ltd., Oshawa, Ont.
SLEIGHS
Tudhope-Anderson Co., Ltd., Orillia, Ont.
SLIPPERS
Ames - Holden - McCready, Ltd., Montreal, Que.
SLOTTERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
SMALL METAL STAMPINGS, in quantities
*Canadian Winkley Co., Ltd., Windsor, Ont.
SMOKE CONSUMERS
*The Jones Underfeed Stoker Co., Ltd., Toronto, Ont.
SMOKE-STACKS
*Steel Trough & Machine Co., Ltd., Tweed, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
SNAPS, for harness
*McKinnon Industries, Ltd., St. Catharines, Ont.
SOAPS
J. Barsalou & Co., Ltd., Montreal.
SOAP (soft, oil)
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
Sherwin-Williams Co. of Canada Ltd., Montreal, Que.
SOCKETS
*Crouse-Hinds Co., Ltd., Toronto.
SODA WATER FOUNTAINS
J. J. McLaughlin, Ltd., Toronto.
SODA WATER FOUNTAINS AND ACCESSORIES
Fletcher Mfg. Co., Ltd., Toronto
SOIL PIPE
Anthes Foundry, Ltd., Toronto.
SOLDER
Alonzo W. Spooner, Ltd., Port Hope, Ont.
*Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
SOLDER, silver
Geo. H. Lees & Co., Hamilton, Ont.
SOLDER, wire and bar
*American Can Co., Montreal, and Hamilton.
SOLDERING IRONS AND COPPERS
Brown, Boggs Co., Ltd., Hamilton,
SNOWSHOES
Holt, Renfrew, Ltd., Quebec, Que.
SPECIAL MACHINERY
*Globe Engineering Co., Ltd., Hamilton, Ont.
SPELTER
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
SPIKES, railway and marine
Starr Mfg. Co., Ltd., Dartmouth, N.S.
SPINNING AND STAMPING
Tallman Brass & Metal, Ltd., Hamilton, Ont.
SPIRAL CONVEYORS
*Canadian Mathews Gravity Carrier Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
SPLIT PEAS
H. Murton, Ltd., Guelph, Ont.
SPIRITS
*Hiram Walker & Sons, Ltd., Walkerville, Ont.
SPOOLS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
SPORTING MEDALS AND TROPHIES
Roden Bros., Ltd., Toronto, Ont.
SPRAYERS
Spramotor Co., London, Ont.
SPRING COTTERS
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
SPRINGS
*Canadian Steel Foundries, Ltd., Montreal, Que.
B. J. Coghlin Co., Ltd., Montreal.
Guelph Spring & Axle Co., Ltd., Guelph, Ont.
SPRINGS, carriage and automobile
Guelph Spring & Axle Co., Ltd.,
SPRING SHACKLE BOLTS
*Canadian Winkley Co., Ltd., Windsor, Ont.
John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy, Mansell, Ltd., Toronto.
*Vogel Co. of Canada, Ltd., Montreal, Que.
SPROCKET WHEELS
*Canadian Link Belt Co., Ltd., Toronto, Ont.
STAINS
R. C. Jamieson & Co., Ltd., Montreal, Que.
STAINS, creosote shingle
A. Muirhead Co., Ltd., Toronto.
STAMPINGS
*Dominion Forge & Stamping Co., Ltd., Walkerville, Ont.
*Wentworth Mfg. Co., Hamilton.
STAMPINGS, heavy steel
Canadian Cartridge Co., Ltd., Hamilton, Ont.
STAMPS, steel, brass and rubber
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
STAMP MILLS
*Jenckes Machine Co., Sherbrooke, P.Q.
STATIONERY, office
Harris Lithographing Co., Toronto.
STEAM PIPE AND BOILER COVERINGS, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.
STEAM SHOVELS
*M. Beatty & Sons, Ltd., Welland, Ont.
STEAM SPECIALTIES
*C. A. Dunham Co., Ltd., Toronto.
*Darling Bros., Ltd., Montreal, Que.
*Sheldons, Ltd., Galt, Ont.
STEAM TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Mfg. Co., Ltd., Woodstock, Ont.
STEEL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
STEEL BILLETS AND BLOOMS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
STEEL BUILDINGS
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal, Que.

*For Display Advertisement see Index Page 45

*McGregor & McIntyre, Ltd., Toronto, Ont.
*Mackinnon, Holmes & Co., Ltd., Sherbrooke, P.Q.
*The Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL CABINETS
J. & J. Taylor, Ltd., Toronto, Ont.

STEEL CASTINGS
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton, Ont.

STEEL DOORS, rolling
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL FILING EQUIPMENT
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

STEEL PLATE WORK
*Mackinnon, Holmes & Co., Ltd., Sherbrooke, P.Q.
*Toronto Iron Works, Ltd., Toronto.

STEEL RODS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.

STEEL SASH
*Dennis Wire & Iron Works Co., London, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL SHELVING
*Dennis Wire & Iron Works Co., London, Ont.

STEEL WIRE RODS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.

STEEL WAGON HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.

STELLITE
*Deloro Smelting & Refining Co., Ltd., Deloro and Toronto.

STENCILS, brass
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

STEPS, for buggies and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.

STEREOTYPING
Central Press Agency, Toronto.

STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto, Ont.

STOOLS AND BENCHES, piano and organ
*Otterville Mfg. Co., Ltd., Otterville, Ont.

STOOLS, steel factory
*Steel Trough & Machine Co., Ltd., Tweed, Ont.

STONE
The Hagersville Contracting Co., Hagersville, Ont.

STONEWARE
*Jas. W. Foley & Co., St. John, N.B.

STORAGE BATTERIES
*Canadian General Electric Co., Ltd., Toronto, Ont.

STORE FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.

STOVES
Smith Foundry Co., Ltd., Fredericton, N.B.
Tudhope - Anderson Co., Ltd., Orillia, Ont.

STOVE LININGS
Standard Clay Products, Ltd., St. John's Que.

STOVES AND RANGES
Lee Mfg. Co., Ltd., Pembroke, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
McClary Mfg. Co., London, Ont.

STRAWS, paper drinking
Fletcher Mfg. Co., Ltd., Toronto.

STRAWBOARD
*Canada Boxboard Co., Ltd., Montreal, Que.

STREET LIGHTING FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.

STRETCHERS, lace curtain
*Otterville Mfg. Co., Ltd., Otterville, Ont.

STRUCTURAL STEEL
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Dominion Bridge Co., Montreal.
*Hamilton Bridge Works Co., Ltd., Hamilton, Ont.
*Manitoba Bridge & Iron Works, Ltd., Winnipeg, Man.
*McGregor & McIntyre, Ltd., Toronto, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*The Canadian Bridge Co., Ltd., Walkerville, Ont.

STUMP EXTRACTORS
*The John Whitfield Co., Toronto.

SUIT CASES
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto, Ont.

SUPPLY DEALERS
*The Foundation Co., Ltd., Montreal, Que.

SURFACERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

SWITCHBOARDS
*Canadian General Electric Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.

SWITCHES
*Crouse-Hinds Co., Ltd., Toronto.

SWITCHES, railway
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.

SWITCHES AND FROGS
*Canadian Steel Foundries, Ltd., Montreal, Que.

SWITCH STANDS
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.

TABLE COVERS, chenille
Hamilton Cotton Co., Hamilton, Ont.

TANKS
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*Toronto Iron Works, Ltd., Toronto.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

TANKS, steel storage
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Steel Trough & Machine Co., Ltd., Tweed, Ont.

TANNERS' SUPPLIES
McClary Mfg. Co., London, Ont.

TAPS
*Butterfield & Co., Rock Island, P.Q.
*Pratt & Whitney Co., Dundas, Ont.

TAPES, measuring
The Lufkin Rule Co. of Canada, Ltd., Windsor, Ont.

TELEPHONE ACCESSORIES
*Canadian Independent Telephone Co., Toronto, Ont.
*Northern Electric Co., Ltd., Montreal, Que.

TENTS
Turner, J. J., & Sons, Peterboro, Ont.
*Scythes & Co., Ltd., Toronto, Ont.

TERMINALS, electric cable
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

TERRA ALBA
*Albert Mfg. Co., Hillsborough, N.B.

TERRA COTTA, architectural
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.

TEXTILE SUPPLIES (shuttles, bobbins, spools and picker sticks)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.

THUMB SCREWS
*Canadian Billings & Spencer, Ltd., Welland Ont.

TIE TAMPERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

TIE PLATES, for railways
*McKinnon Industries, Ltd., St. Catharines, Ont.

TILING, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Ltd., Toronto, Ont.

TIME RECORDERS
*International Business Machines Co., Ltd., Toronto, Ont.

TINWARE, lithographed
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

TIRES, bicycle, auto, carriage, truck, motorcycle.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Ltd., Toronto, Ont.

TOOLS
*The John Whitfield Co., Toronto,

TOOLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

TOOLS, track
B. J. Coghlin Co., Ltd., Hamilton.

TOOLS, sheet metal workers'
Brown, Boggs Co., Ltd., Hamilton.

TRACK, steel, portable
Hammant Steel Car & Engineering Works, Hamilton, Ont.

TRADE MARKS AND DESIGNS
Ridout & Maybee, Toronto, Ont.

TRANSFORMERS
*Canadian General Electric Co., Ltd., Toronto, Ont.
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.

TRANSLATIONS INTO FRENCH
Raoul Renault, Quebec City.

TRANSMISSION MACHINERY
Bond Engineering Co., Toronto.
*Canadian Link Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Mfg. Co., Woodstock, Ont.

TROLLEYS
*Richard-Wilcox Canadian Co., Ltd., London, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.

TRUCKS
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton.
*Northern Crane Works, Ltd., Walkerville, Ont.

TRUCKS, brick, tile and lumber
*Waterous Engine Works Co., Ltd., Brantford, Ont.

TRUCKS, motor
*National Steel Car Co., Ltd., Hamilton, Ont.

TRUCKS, warehouse and factory
The W. S. Mahaffy Co., Toronto.

TRUCKS, steel, forge and foundry
Hammant Steel Car & Engineering Works, Hamilton, Ont.

TRUCKS FOR OFFICE AND VAULT USE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

TRUNKS
Lamontagne, Ltd., Montreal, Que.
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto.

TUBING, brass and copper
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
Canadian Seamless Wire Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Co., Ltd., Montreal, Que.

TUBING, gold and silver
Canadian Seamless Wire Co., Toronto, Ont.

TUBES, ice cream
Fletcher Mfg. Co., Ltd., Toronto.

TUMBLERS, foundry
*Northern Crane Works, Ltd., Walkerville, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

TURBINES, steam
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines.

TURBINE PUMPS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

TURPENTINE
*Brown Corporation, La Tuque, Que.

TWEEDS
Rosamond Woollen Co., Almonte, Ont.

TWINES
*Doon Twines, Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.

TWINES, binder
Brantford Cordage Co., Ltd., Brantford, Ont.

TWINES, cotton
Hamilton Cotton Co., Hamilton, Ont.

TWIST DRILLS
*John Morrow Screw & Nut Co., Ltd., Ingersoll.
*Pratt & Whitney Co. of Canada, Dundas, Ont.
*The Wilt Twist Drill Co., Ltd., Walkerville, Ont.

UNDERWEAR
Galt Knitting Co., Ltd., Galt, Ont.

UNDERWEAR, imperial
Kingston Hosiery Co., Ltd., Kingston, Ont.

UNIONS
*Dart Union Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.

UPHOLSTERED FURNITURE, leather and tapestries
Imperial Rattan Co., Ltd.

VALVES
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Jenkins Bros., Ltd., Montreal, Que.
*Kerr Engine Co., Ltd., Walkerville, Ont.
T. McAvity & Sons, Ltd., St. John, N.B.
*Penberthy Injector Co., Ltd., Windsor, Ont.

VALVES, for steam and water
*Jenkins Bros., Ltd., Montreal.
*Mueller Mfg. Co., Ltd., Sarnia, Ont.
*Penberthy Injector Co., Ltd., Windsor, Ont.
James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.

VALVES, pressure reducing
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

VALVES, regrinding globe, angle, cross checks, swing checks
*Mueller Mfg. Co., Ltd., Sarnia,
Penberthy Injector Co., Ltd., Windsor, Ont.

VALVES, regulating
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

VALVES, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.

VARNISHES
*Ault & Wiborg Co. of Canada, Ltd., Toronto, Ont.
Berry Bros., Walkerville, Ont.
R. C. Jamieson & Co., Ltd., Montreal, Que.

VAULT FITTINGS, steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

VAULTS AND VAULT DOORS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
J. & J. Taylor, Ltd., Toronto, Ont.

VENTILATING APPLIANCES
*Sheldons, Ltd., Galt, Ont.

VENTILATING SYSTEMS
Gurney Foundry Co., Ltd., Toronto, Ont.

VENTILATORS
*A. B. Ormsby, Ltd., Toronto, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.

VOLTMETERS AND AMMETERS
*Crouse-Hinds Co., Ltd., Toronto.

WAGONS
Tudhope Anderson Co., Ltd., Orillia, Ont.

WAGON HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.

WALL COPING
Standard Clay Products, Ltd., St. John's, Que.

WASHERS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*United Brass & Lead, Ltd., Toronto, Ont.

WASHERS, plate or wrought
London Rolling Mill Co., Ltd., London, Ont.

WASTES, wool and cotton
Factory Waste & Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto, Ont.

WATERPROOF, cement coating
Benjamin Moore & Co., Ltd., Toronto, Ont.
*The Barrett Co., Ltd., Toronto and Montreal.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.

***For Display Advertisement see Index, Page 45**

WATER WHEELS
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
WEBBING, elastic
Hamilton Cotton Co., Hamilton, Ont.
WEBBING, non-elastic
Hamilton Cotton Co., Hamilton, Ont.
WELDING APPARATUS AND MATERIALS
*The Presto-O-Lite Co., Toronto.
WELL-DIGGING TOOLS AND MACHINERY
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
WHEEL FLANGES
*McKinnon Industries, Ltd., St. Catharines, Ont.
WHEELS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
WHEELS, corundum
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
WHEELS, emery
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
WELL DRILLING TOOLS AND MACHINERY
Oil Well Supply Co., Ltd., Petrolia, Ont.
WHIPS AND LASHES
Lay Whip Co., Rock Island, Que.
WHIPSOCKETS
*McKinnon Industries, Ltd., St. Catharines, Ont.
WHITE ARSENIC
Coniagas Reduction Co., Ltd., St. Catharines, Ont.

WHITE LEAD
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal.
WINDMILLS
*Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*Medicine Hat Pump & Brass Mfg. Co., Medicine Hat, Alta.
WINDOW SHADES
Daly & Morin, Montreal, Que.
WIRE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
The Graham Nail Works, Toronto.
WIRE BALE TIES
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.
WIRE CLOTH
*Canada Wire & Iron Goods Co., Hamilton, Ont.
C. H. Johnston & Sons, Ltd., Montreal, Que.
WIRE, feeder and trolley
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE GUARDS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
C. H. Johnston & Sons, Ltd., Montreal, Que.

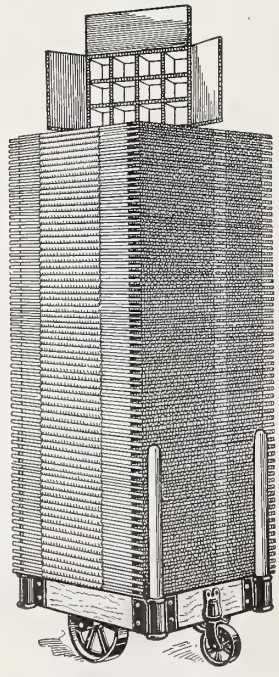
WIRE, insulated electric
*Northern Electric Co., Ltd., Montreal, Que.
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE, weatherproof
*Northern Electric Co., Ltd., Montreal, Que.
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE ROPE
*Dominion Wire Rope Co., Ltd., Montreal, Que.
*The B. Greening Wire Co., Ltd., Hamilton, Ont.
WIRE WORK
C. H. Johnson & Sons, Ltd., Montreal, Que.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*The Geo. B. Meadows, Toronto Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
WIRING DEVICES
*Crouse-Hinds Co., Ltd., Toronto.
WOOD
Standard Fuel Co., Toronto, Ont.
WOOD BORERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
WOOD PRINTERS
Barchard & Co., Ltd., Toronto.

WOOD PULP, mechanical
La Cie de Pulpe de Chicoutimi, Chicoutimi, Que.
WOODBOARD
*Canada Boxboard Co., Ltd., Montreal, Que.
WOOD SHOP, general work
*Canadian Rumely Co., Ltd., Toronto, Ont.
WOOD SPLIT PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
WOOD STAVE PIPE
T. A. Morrison & Co., Montreal.
WOOL
*H. V. Andrews, Toronto, Ont.
WOOD TURNING
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
WORSTED COATINGS AND SUITINGS
Rosamond Woollen Co., Almonte, Ont.
WRAPPERS, book, bottle, etc.
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
WRENCHES
*McKinnon Industries, Ltd., St. Catharines, Ont.
WROUGHT IRON PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
WROUGHT PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
YARNS, cotton
Hamilton Cotton Co., Hamilton, Ont.
ZINC, electrical
*The Canada Metal Co., Toronto.

*For Display Advertisement see Index, Page 45



Pioneer Manufacturers of Machine Knives and Metal Cutting Shear Blades in Canada.
THE PETER HAY KNIFE CO., LIMITED
GALT, ONTARIO



OUR SPECIALTY
FOLDING CELLBOARD
FREIGHT BOXES

ADAMS CELLBOARD COMPANY

MANUFACTURERS OF
SHIPPING CONTAINERS AND CORRUGATED PAPER
IMPORTERS OF
GUM SODA AND SEALING TAPES

We desire to have your samples or measurements to quote on when you are considering placing an order.

5 TO 21 DEFRIES STREET
AND DON ESPLANADE
TORONTO

Vol. XX., No. 6 TORONTO, OCTOBER, 1919 $2.00 per Year

INDUSTRIAL CANADA



Helping You to Sell More

Thorough familiarity with markets, and ability, born of twenty years experience, to prepare advertising matter that possesses "selling power" qualify us to aid you in solving your sales problems.

We should be glad to have the privilege of consulting with you on your advertising program. We make no charge for consultation. If you feel that we can be of assistance, after we have made our suggestions, then we will be pleased to place our facilities at your disposal.

J. J. GIBBONS, LIMITED

General Advertising Agents

MONTREAL TORONTO WINNIPEG

Cables--Gibjay, Toronto Codes--ABC, 5th Edition

PUBLISHED BY THE CANADIAN MANUFACTURERS ASSOCIATION INCORPORATED.

HEAD OFFICE TORONTO · BRANCH OFFICES, MONTREAL, HAMILTON, WINNIPEG, VANCOUVER, HALIFAX, QUEBEC.

STEEL TANKS

THE
TORONTO IRON WORKS
LIMITED

HEAD OFFICE: ROYAL BANK BLDG. TORONTO WORKS: CHERRY STREET

Oil Storage, Gasoline Tanks, Air Receivers, Pneumatic Water Supply Tanks, Smoke Stacks, Boiler Breeching, Riveted Steel Pipe, Bins and Hoppers. Heavy and light steel plate construction erected anywhere.

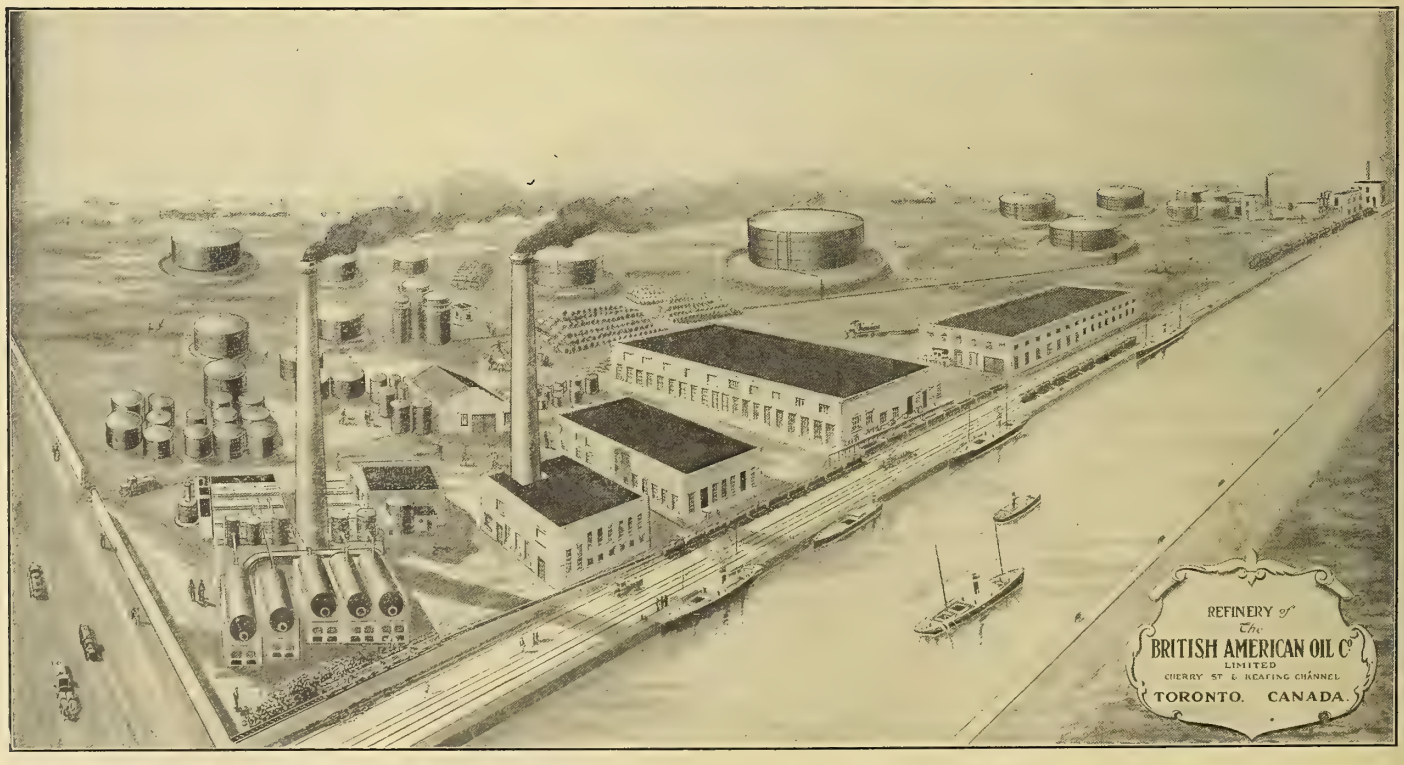


Metal-Cutting Shear Blades

GALT KNIFE CO.
Limited

GALT ONT.

THE BRITISH AMERICAN OIL CO., LIMITED



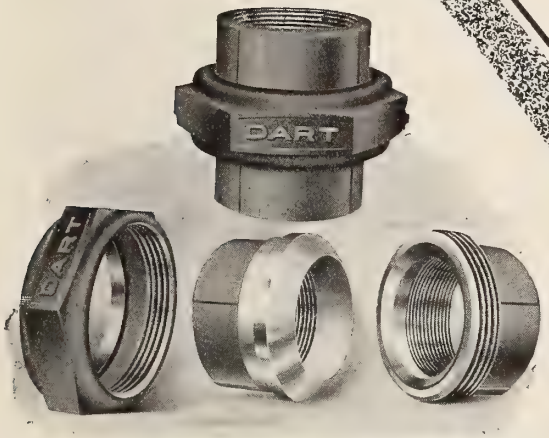
Head Office: ROYAL BANK BUILDING, TORONTO

Branches: Montreal, Ottawa, London, Windsor, Etc.

DART UNION PIPE COUPLINGS STAY TIGHT

Bronze to Bronze At The Joint

No Upkeep Cost
No Loss from Leaks



Never Have to be Replaced

Bronze meets bronze at the point where the joint is made—no deterioration. Malleable Iron Parts are extra heavy to ensure great strength.

A Sure Joint Every Time

YOUR JOBBER SELLS THEM

Manufactured by
Dart Union Co., Ltd., Toronto, Ont.

GRACE & CO., LIMITED

DOMINION EXPRESS BUILDING

MONTREAL - CANADA

EXPORTERS

IMPORTERS

With our own extensive connections embracing practically all markets of importance we are in an unusual position to advise Canadian Manufacturers regarding Export Opportunities and also to submit offerings of the raw materials in which they are interested.

LONDON NEW YORK LIVERPOOL CALCUTTA
RIO DE JANEIRO LIMA TOKIO SHANGHAI SAN FRANCISCO
VALPARAISO CUBA JAMAICA BUENOS AYRES SANTOS
STOCKHOLM BARCELONA GENOA PARIS

Index to Advertisements.....Page 43 Contents.....Page 45

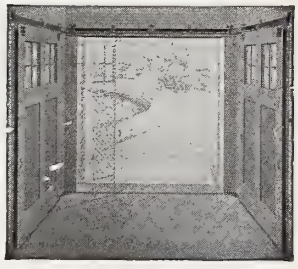


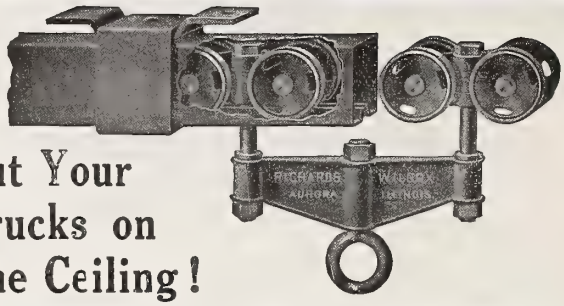
BULLDOG STEEL JOIST HANGERS

They never let go! Stronger than malleable. All sizes and styles for all kinds of work. Save space and time in erection.

GARAGE DOOR HARDWARE OF ALL KINDS FOR ANY PURPOSE

Angle Doors, Parallel Doors, etc. Special jobs receive the prompt attention of our engineering department. Let us know your requirements.





Put Your Trucks on The Ceiling!

The Modern Method of Factory Transportation

A Richards-Wilcox Carrier System---either I-Beam or Trolley---will pay for itself in one year on actual pay-roll saving, not to mention the increased efficiency. Occupies no floor space. Always ready for use. Operates easily, one man can handle 2,500 lbs. Trolley carriers made in sixteen styles and sizes for loads up to 2,500 lbs. For heavier loads use I-Beam Equipment.

Catalogs Upon Request

Richards-Wilcox Canadian Co. Ltd.

AURORA BOSTON NEW YORK CHICAGO London Ontario PHILADELPHIA MINNEAPOLIS SAN. FRANCISCO ST. LOUIS

"A hanger for any door that slides"

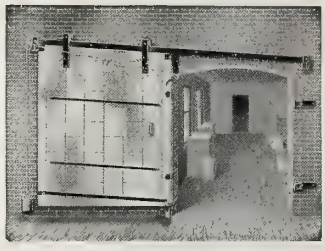
"R-W" TROLLEYS ARE BEST FOR ALL SLIDING DOORS



Specified by leading architects and engineers throughout Canada and the United States. "A hanger for any door that slides."

FIRE DOORS AND FIRE DOOR HARDWARE WITH UNDERWRITERS' LABEL

All styles, single or double, sliding or swinging. A fire door with labeled hardware is the surest way to prevent fire from spreading.



EXCLUSIVE PATENT ATTORNEY SERVICE

By exclusive service, we turn our many years of experience as Patent Attorneys to serve your firm, by giving advice and keeping you thoroughly posted on your products protection.

As efficiency experts, we co-operate right in your factory, become thoroughly acquainted with your methods of manufacture and distribution. Our service will often warn you before putting an article on the market, which might save you many times our yearly service retainer fee.

Under our service, we act as Consulting and Prosecuting Patent Attorneys for your particular business exclusively in that line of business to which it pertains. Many a time you would like to consult with your Attorney, but you do not want to let any of your trade-secrets to become public. Our exclusive service contract brings us right into your office—one of your departments, always at your service.

CORRESPONDENCE INVITED

HAROLD C. SHIPMAN & COMPANY

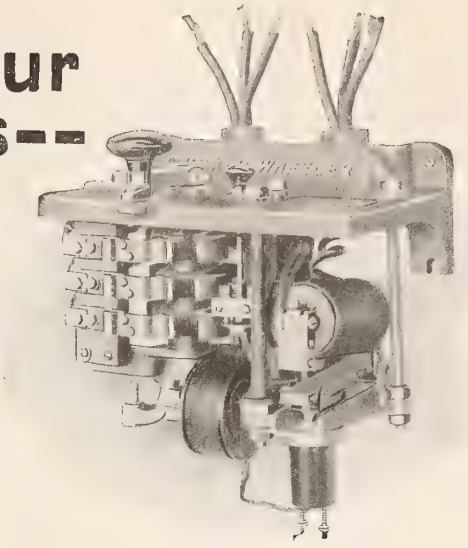
OTTAWA - CANADA

Patent Attorneys **Efficiency Experts**

A good friend to your hard worked motors--

WEARING OUT HIGH-PRICED MOTORS IS BAD, BUT THE RESULTANT COSTS FROM SHUT-DOWNS ARE WORSE.

THERE IS A WAY OUT. USE CANADIAN CROCKER-WHEELER TYPE D.O. OIL SWITCHES WHICH MAKE YOUR MOTORS FOOL-PROOF, CHECK OVER-LOADING CARELESSNESS--- PROTECT AGAINST NO-VOLTAGE TROUBLES, ETC.



(CUT SHOWS OIL TANK REMOVED)

Canadian Crocker-Wheeler Apparatus and Service are available at all of the Branches of the
Montreal Halifax Ottawa Toronto London Winnipeg Regina Calgary Vancouver

Northern Electric Company LIMITED

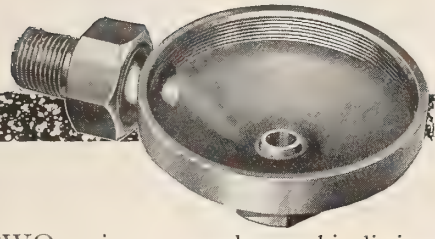
THE CANADIAN
CROCKER-WHEELER COMPANY
LIMITED

Head Office and Works: ST. CATHARINES, ONT.

Manufacturers and Electrical Engineers

District Offices: TORONTO and MONTREAL





The 2-Part Trap

TWO major parts make up this distinctively simple trap: the body, with inlet and outlet connections; the cover, in which the Dunham Thermostatic Disc is securely fastened.

This disc of special phosphor bronze contains a fluid which is extremely sensitive to temperature changes over a wide range—10 pounds of pressure to 15 inches of vacuum.

Temperatures above normal close the trap; temperatures below normal open it for the escape of the troublesome air and water.

Should it ever become necessary to renew a trap, the cost is confined to the top part only. Just screw a new one into place. Judging from some of the original traps (installed 15 years ago) we do not anticipate much demand for new tops.

The complete story of Dunham Heating Service is quite interesting. Write for it.

C. A. DUNHAM COMPANY, LIMITED, TORONTO, ONTARIO

Halifax
Ottawa
Vancouver

The DUNHAM HEATING SERVICE

Montreal
Winnipeg
Calgary

43 40 D

SMALL TOOLS

MILLING CUTTERS

In High Speed or Carbon Steel



Plain Side Convex
Concave Angular
and
Special Forms

Special Inserted
Blade Cutters

Our tools are manufactured from the best materials procurable, by skilled workmen with most modern equipment.

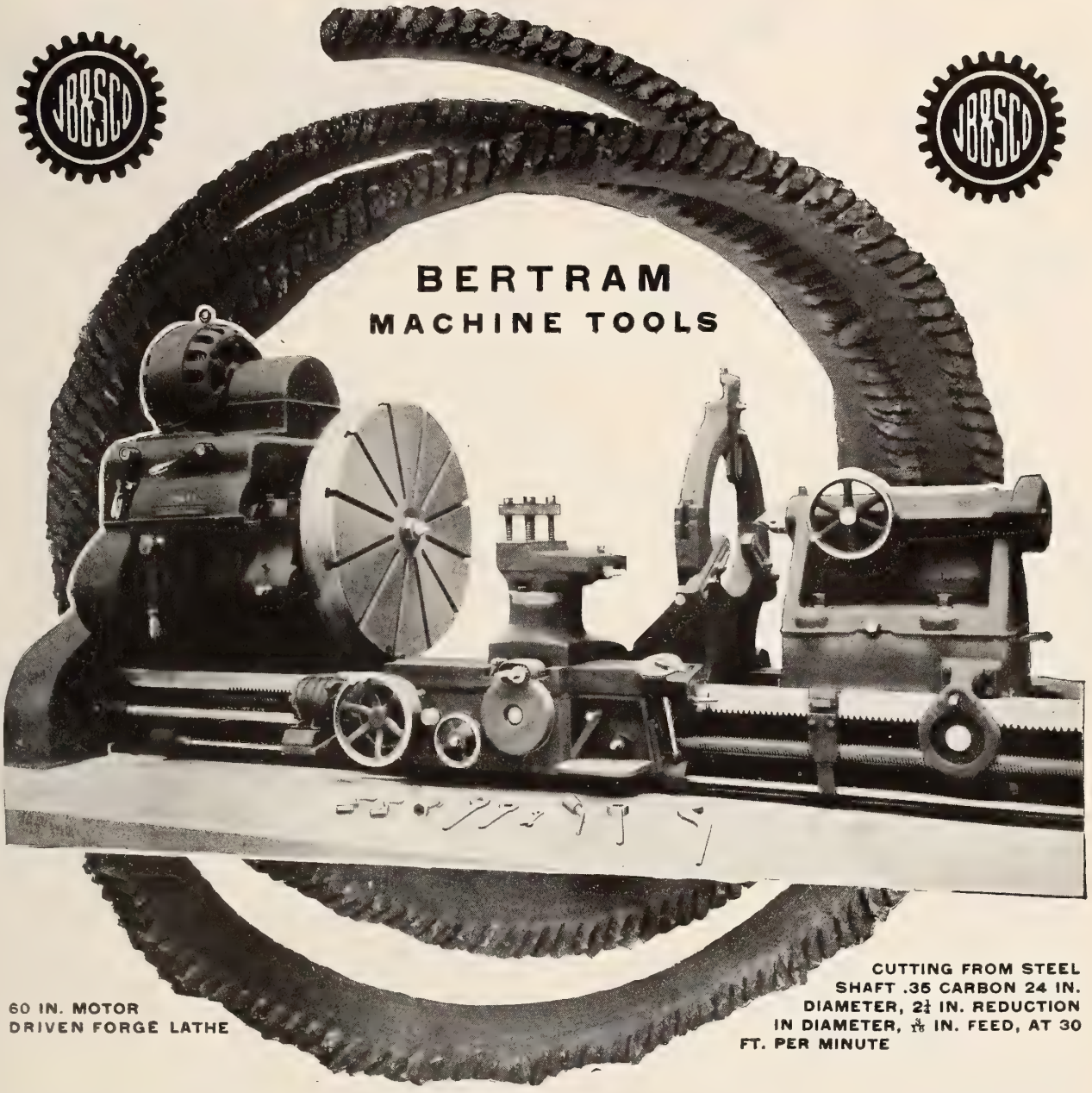
QUALITY GUARANTEED

Prompt service is assured at our nearest store, where P. & W. Small Tools are stocked for immediate delivery.

Write for Our No. 9 Catalogue

PRATT & WHITNEY CO.
of Canada, Limited
Dundas - Ontario

HALIFAX	MONTREAL	TORONTO	WINNIPEG	VANCOUVER
Davidson Bldg.	723 Drummond Bldg.	1002 C.P.R. Bldg.	1205 McArthur Bldg.	B.C. Equipment Co.



THE JOHN BERTRAM & SONS CO., LIMITED

DUNDAS - ONTARIO - CANADA

MONTREAL
723 Drummond Bldg.

TORONTO
1002 C.P.R. Bldg.

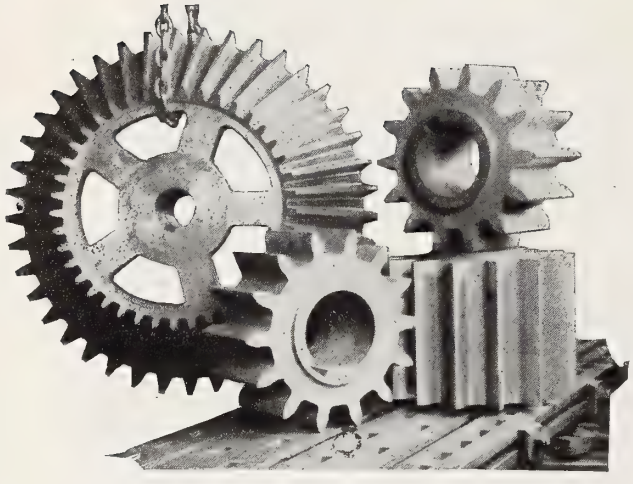
WINNIPEG
1205 McArthur Bldg.

HALIFAX
Davidson Bldg.

VANCOUVER
609 Bank of Ottawa Bldg.

CUT GEARS

Mill Gearing



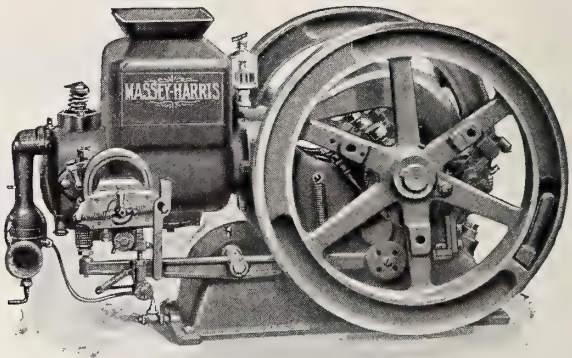
These Special Semi-Steel Pinions have tooth thickness 35/100 of circular pitch to mate with wood mortice tooth gears.

Write to

Hamilton Gear Co. Ltd.

Van Horne St., TORONTO

Massey-Harris



An Engine You Can Depend On

The Massey-Harris Engine can be depended on to give all the year 'round service in any kind of weather at minimum cost, because it's designed on scientific principles and every part built to stand up and wear long.

Think what these features mean:

- Simple in operation.
- A Simple and Efficient Carburetor gives a perfect mixture in any kind of weather.
- Effective Governor—No charge or spark on Idle Stroke.
- Valves Easily Removable.
- Large Water Space surrounding Cylinder.
- Safe Gasoline Storage in the substantial Cast-Iron Base.

Write for more detailed description of the Massey-Harris Gasoline Engine.

Made in Sizes to deliver from 2 to 15 H.P.

MASSEY-HARRIS CO., Limited

Head Office—Toronto, Canada

Canadian Branches at

Montreal Moncton Winnipeg Regina Saskatoon Swift Current Yorkton Calgary Edmonton

AGENCIES EVERYWHERE



A MONEY SAVER

IF YOUR COAL COMES IN BOX CARS

UNLOADING box cars is an expensive operation at best. Two men with ordinary shovels will take a day sometimes and it is hard work.

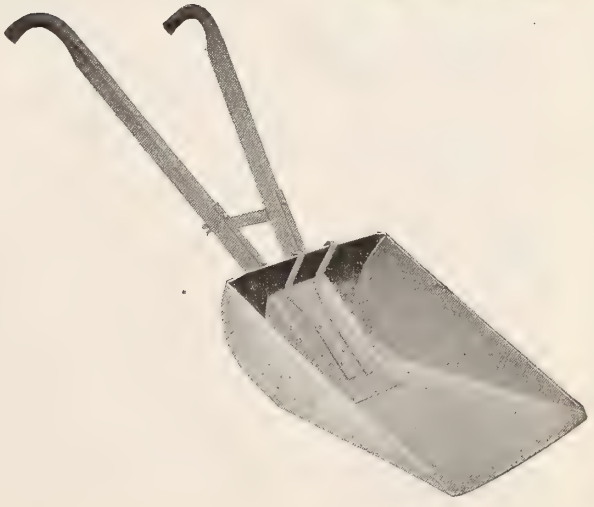
A test, under actual conditions, was recently made by the P. Burns Company of Toronto, coal dealers. Two men working with Truck Shovels took off a 40-ton car of coal in 50 minutes. They were just ordinary men and were working at just an ordinary rate.

A great deal of coal is now being shipped in box cars. The present car shortage demands it. Add a Truck Shovel to your equipment and your men will unload a box car quicker than any other.

Price $20.50

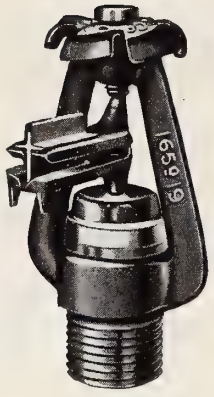
Immediate Shipment





THE GEO. B. MEADOWS
TORONTO WIRE, IRON & BRASS WORKS CO
LIMITED
TORONTO ——— CANADA

Puts Out FIRE Quickly



What if a big fire breaks out in your factory to-day? Are you equipped well enough to extinguish it quickly and start operations again in a short time? Install our Automatic Sprinklers. Do it to-day, for to-morrow may be too late. The insurance will not cover all the tangible losses which always follow a fire.

On installing the Automatic Sprinklers, you reduce your insurance premiums 30% to 50% which pays for the installation in two years, after which your insurance savings are clear profit.

Manufacturers' Automatic Sprinklers

ESTIMATES FURNISHED ON REQUEST

The Bennett & Wright Co. Ltd.

72 Queen St. East - Toronto



Wire Cloth

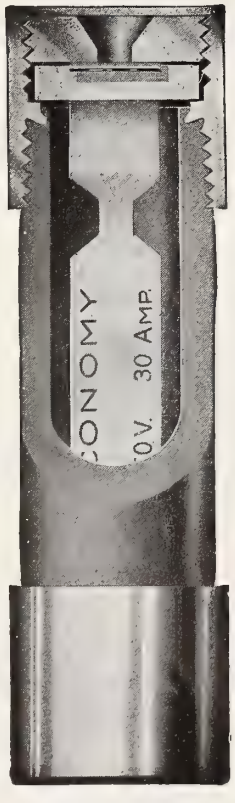
of every description

We make **Machinery Guards** of all kinds.
Metal Lockers for Clothes
Steel Shelving for all purposes.
Drop a line for full details.

CANADA WIRE & IRON GOODS CO.

HAMILTON, ONTARIO

Eastern Representative: H. E. Bull, 184 Mance St. Montreal, P.Q.



ECONOMY renewable FUSES

are the ***right*** fuses to protect ***your*** electrical circuits

—because they afford the right sort of protection; their reputation lends assurance that you can safely depend on them for accuracy of rating and all-round efficiency in operation.

—because they cut annual fuse maintenance costs 80% as compared with the use of one-time fuses, owing to the fact that an inexpensive "Drop Out" Renewal Link restores a blown Economy Fuse to its original efficiency.

—because it's the work of a moment to replace the link and renew the fuse.

—because a good sized stock of "Drop Out" Renewal Links always on hand represents but a small outlay.

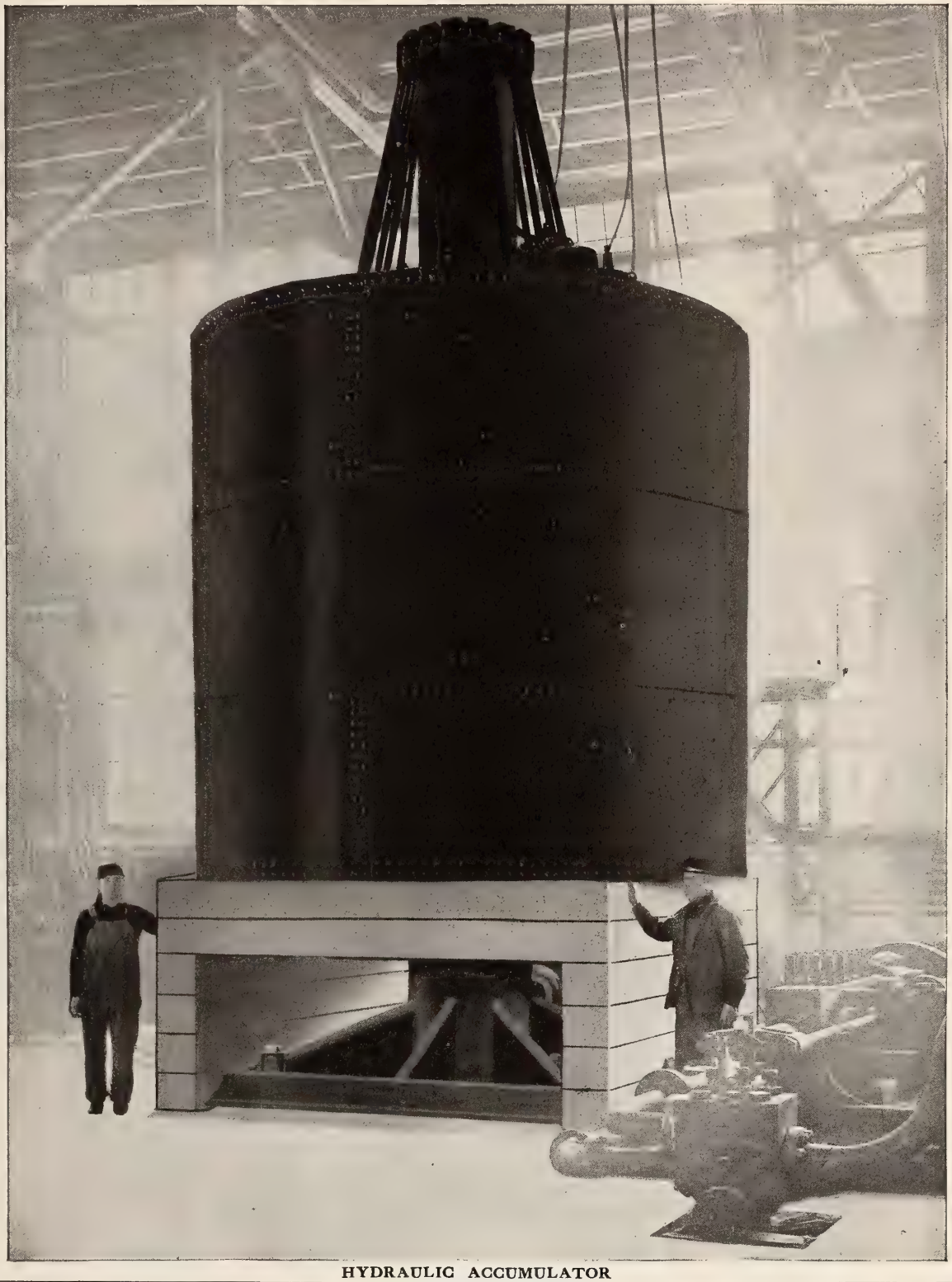
Write for Catalog 40

ECONOMY FUSE & MFG. CO.

OF CANADA, Limited

UNITY BLDG., MONTREAL **CHICAGO, U.S.A.**

Manufacturers in Canada of S. & C. High Potential Fuses to 150,000 volts



HYDRAULIC ACCUMULATOR

HYDRAULIC EQUIPMENTS PUMPS AND PRESSES

"For Every Industrial Requirement"

New Catalog "B" upon request.

THE HYDRAULIC MACHINERY COMPANY, Limited

MONTREAL - - CANADA

Where Jenkins Bros.' Valves are Made

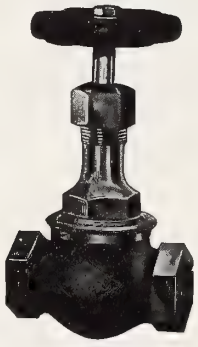


Fig. 106



Factory and Head Office of
JENKINS BROS. LIMITED
Montreal, Canada

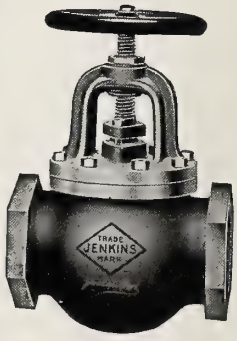


Fig. 141

Where plants are scientifically operated, valve value is measured by service rendered, and by yearly ***lack*** of up-keep cost.

If valves break down before other items of equipment, an injustice is done to the entire plant; because valves should last as long as good plant equipment. Good valves do.

Consider—40 per cent. of the Nation's Coal Pile is lost each year by power plants, from their coal investment through poor steam transmission, and from unnecessary labor costs.

JENKINS BROS.' VALVES will keep your plant running and save you money.

A Protection to the User

A steam user who installs Jenkins Bros.' Valves, can do so with the knowledge that he is protected by the maker against defects and imperfections. Our dealers have instructions to replace, without question, any imperfect or defective Jenkins Bros.' Valve returned to them.

Catalogue No. 8 sent free on request.

Head Office and Works
103 St. Remi St.
Montreal - Canada

JENKINS BROS.
Limited
Agencies in All the Principal Countries of the World

European Branch:
6 Great Queen St.
Kingsway
London, W.C. 2, Eng.

Overland

TRADE MARK REG.

The New Overland 4 With Three-Point Cantilever Springs, the Greatest Improvement in Riding Comfort Since Pneumatic Tires

THIS new Overland 4 *has a springbase of 130 inches* — yet its wheelbase is only 100 inches.

It is a brand new type of car with an entirely new standard of riding comfort.

The springs are Three-Point Cantilever Springs of Chrome Vanadium steel, a new type of spring exclusive with this new Overland.

They give the Overland 4, with its light weight and ease of driving, the riding-comfort and road-steadiness formerly confined to heavy, expensive cars of long wheelbase.

They end bouncing and vibrating over the bumps. They stop the usual swaying, twisting and jars that fatigue the passengers and rack the car!

The wheels and springs go up and down, following the bumps, but the passengers and car are shielded from the blows of the road. The Three-Point Springs protect the mechanism from road injuries and prolong the life of the car.

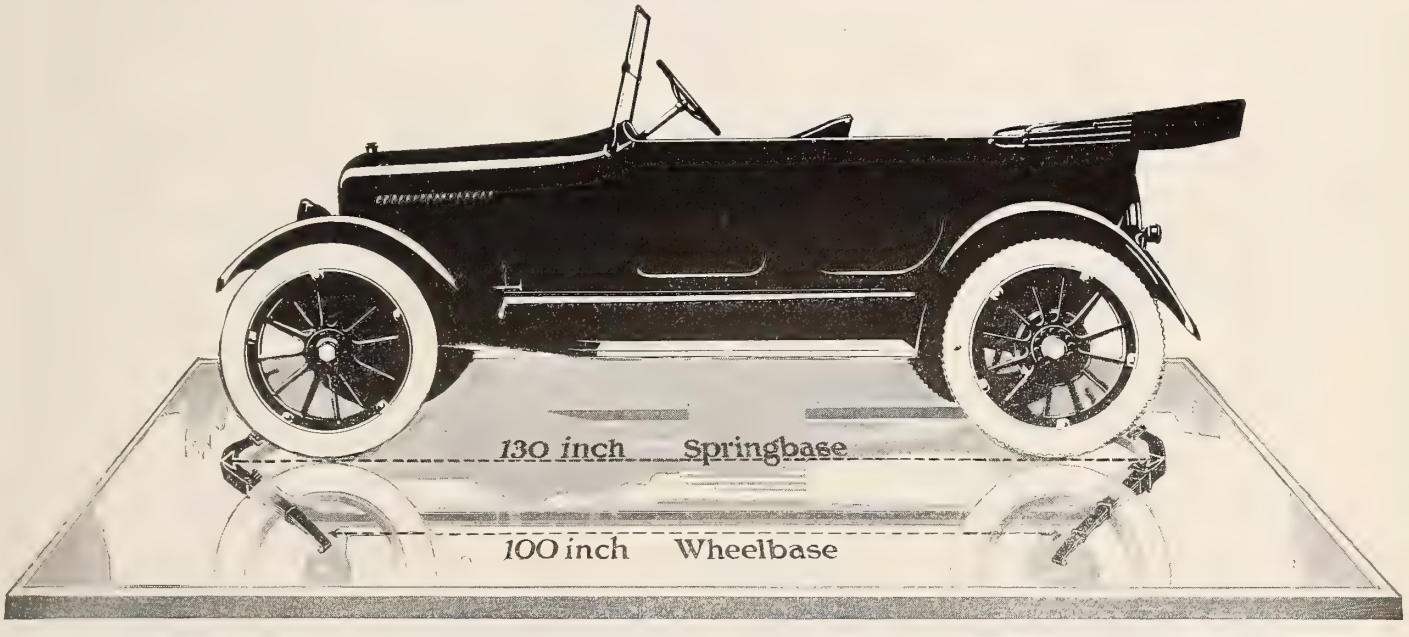
Light weight brings great economy of tires and gasoline.

High quality materials and workmanship are used in Overland 4 throughout. Its equipment is like that of expensive cars, complete from Auto-Lite Starting and Lighting to its Demountable Rims.

Ask the Overland dealer to show you this new motor car which has been tested more than 250,000 miles, let him explain to you its exclusive Three-Point Cantilever Springs, then—

Select rough roads that you formerly dreaded to ride over and see what it means to ride in Overland 4.

Overland 4 Touring, $1195; Roadster, $1195; Coupe, $1845; Sedan, $1995—f.o.b. Factory, Toronto, War Tax Included



WILLYS-OVERLAND LIMITED

Sedans, Coupes, Touring Cars and Roadsters

Head Office and Works, Toronto, Canada

Branches: Montreal, Winnipeg, and Regina



ALGOMA

STRUCTURAL STEEL – MERCHANT BARS

Blooms, Billets and Slabs
Concrete Reinforcing Bars
Shafting – Pulleys – Hangers
Iron, Brass, Bronze and Steel Castings

Sulphate of Ammonia Nitre Cake
Sulphuric Acid

STEEL RAILS – Open Hearth Quality
Splice Bars Steel Tie Plates
Light Rails – 12 lbs. to 45 lbs.

PIG IRON

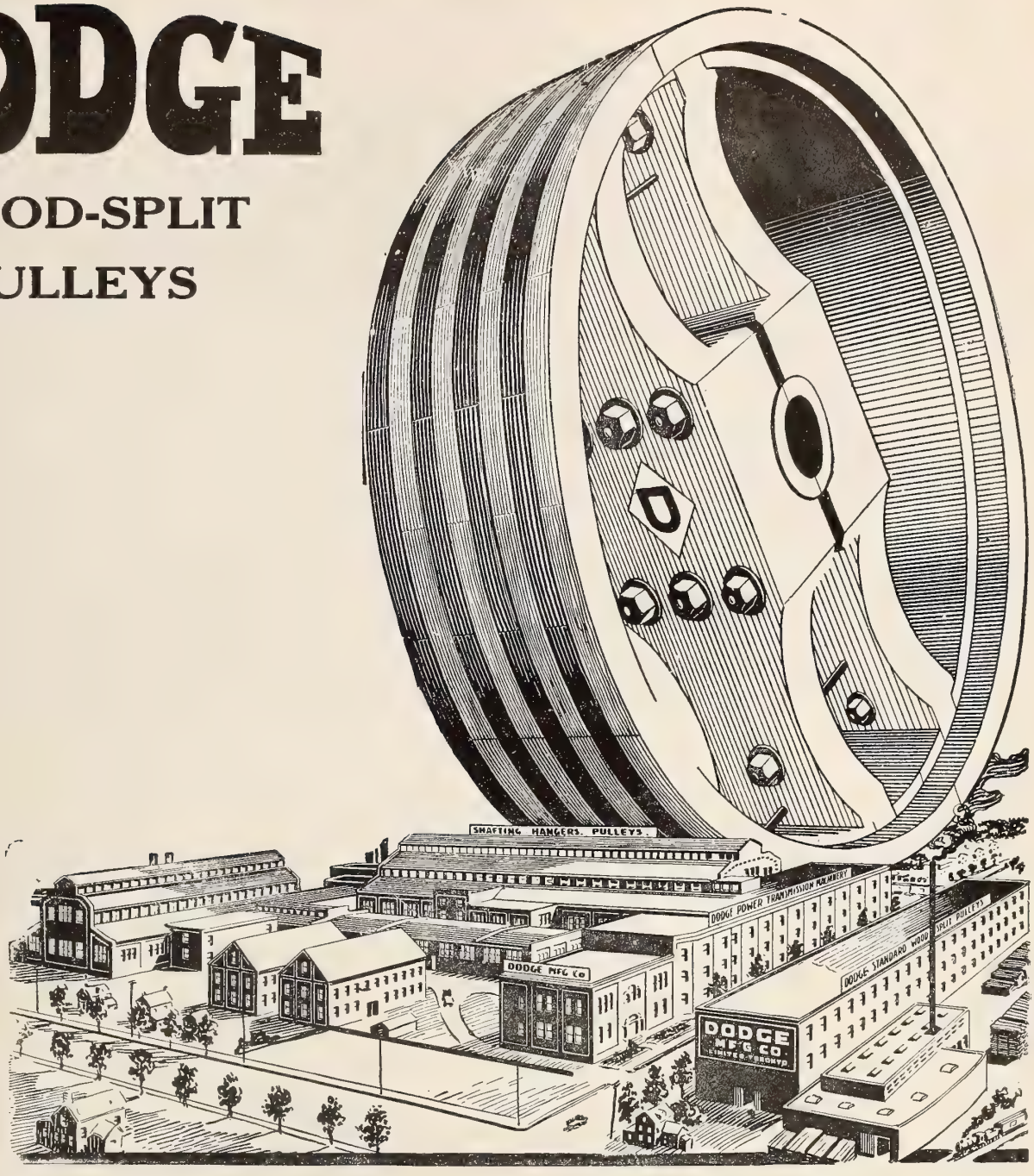
Basic Foundry Bessemer Spiegel

ALGOMA STEEL CORPORATION
LIMITED

SAULT STE. MARIE - - - - ONTARIO

DODGE

WOOD-SPLIT PULLEYS



Overhead Charges and Pulleys

To reduce overhead expenses without impairing efficiency is the eternal problem of all employers and factory men.

Yet in many factories a most obvious waste of power is being ignored.

We refer to places where metal pulleys should be replaced by Dodge Wood-Split Pulleys. The money value of the power wasted by the excessive weight friction and belt slip of the metal pulley is calculated, at the present price of coal, at an annual average of $10.00 for each pulley. Dodge Wood-Split Pulleys prevent this waste of power because they eliminate excessive "belt slip" and weight friction.

This is a bold assertion, and we do not make it lightly. It is based upon thirty years of every-day experience. Surely, therefore, it is worth your while to investigate the advantages here claimed for the Dodge Wood-Split Pulley, and, if you prove them correct, install Dodge Wood-Split Pulleys in your plant.

DODGE MANUFACTURING CO., LIMITED

TORONTO - - - ONTARIO

CANADA'S LARGEST BUILDERS OF TRANSMISSION MACHINERY



PURE WATER AT MINIMUM COST

A supply of pure cold water is a necessity in every industrial plant — the better the water, the better the boiler supply, and the better is the health of the employees.

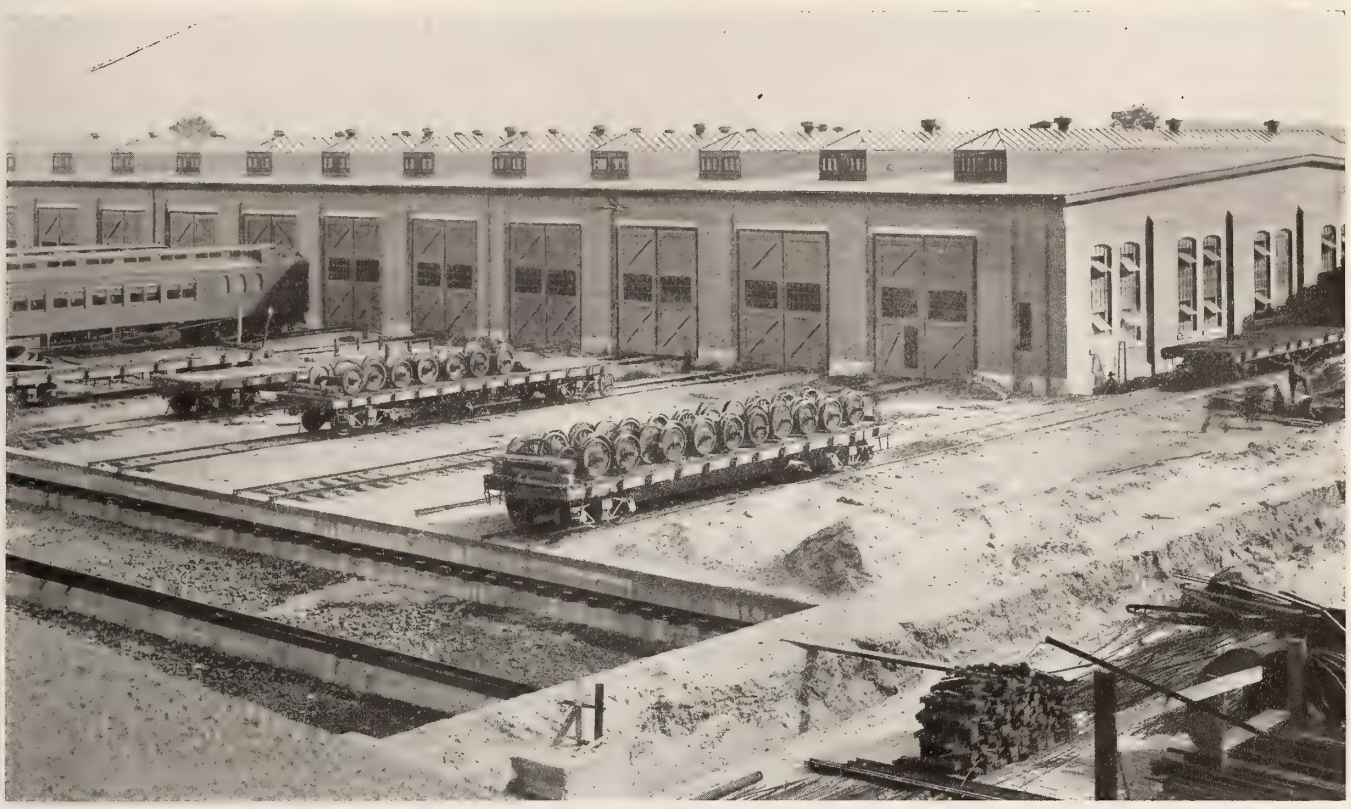
With the Air Lift System of pumping, the water is drawn from deep in the rock where it is purest and coolest; it is automatically aerated, and provides the ideal supply for factories, etc.

The whole installation consists of an air compressor and the necessary piping; the compressor can be conveniently housed half a mile from the well; at the well itself there are just two pipes—for air and water. There are no moving parts to give trouble, the whole installation is simplicity itself.

Our booklet "The Air Lift System of Pumping" should be on your desk; write for it

Canadian Ingersoll-Rand Company Limited

Sydney Sherbrooke Montreal Toronto Cobalt Winnipeg Nelson Vancouver



Coach Shop of Canadian Northern Railway at Leaside, over 10,000 feet of our skylights on this job

ORMSBY SKYLIGHTS

This job was a quality job. They wanted lights that would not leak. In their coach house where cars were being finished leaks would mean endless expense.

The ORMSBY SKYLIGHT was chosen—why?—because it has proven itself in Railway Road work in the East, in Winnipeg, in large factories, warehouses, etc., all over Canada.

We supply Skylights in any size or quantity. If you require one or ten lights write us. Our Skylight is so made that it will not, cannot leak, the glass does not crack from contraction or expansion—and the lights do last. Our price is right for a real skylight that is built of the right material, is made right mechanically and that gives real service.

Write us whether your requirements are large or small—we ship anywhere

THE A. B. ORMSBY COMPANY, Limited

Associated with The Metal Shingle & Siding Company,
Factories at Preston, Toronto, Montreal, Winnipeg, Saskatoon, Calgary

AGENTS:

MARITIME PROVINCES:
F. A. GILLIS & CO., Halifax, N.S.

BRITISH COLUMBIA:
A. T. CHAMBERS, Vancouver

CANADIAN FURNACE CO.

LIMITED

PORT COLBORNE, ONT.

Manufacturers of Pig Iron

BRAND "VICTORIA"

"VICTORIA" FOUNDRY IRON

Strong—Soft—Neutral

"VICTORIA" MALLEABLE IRON

Furnished to all Standard Analyses

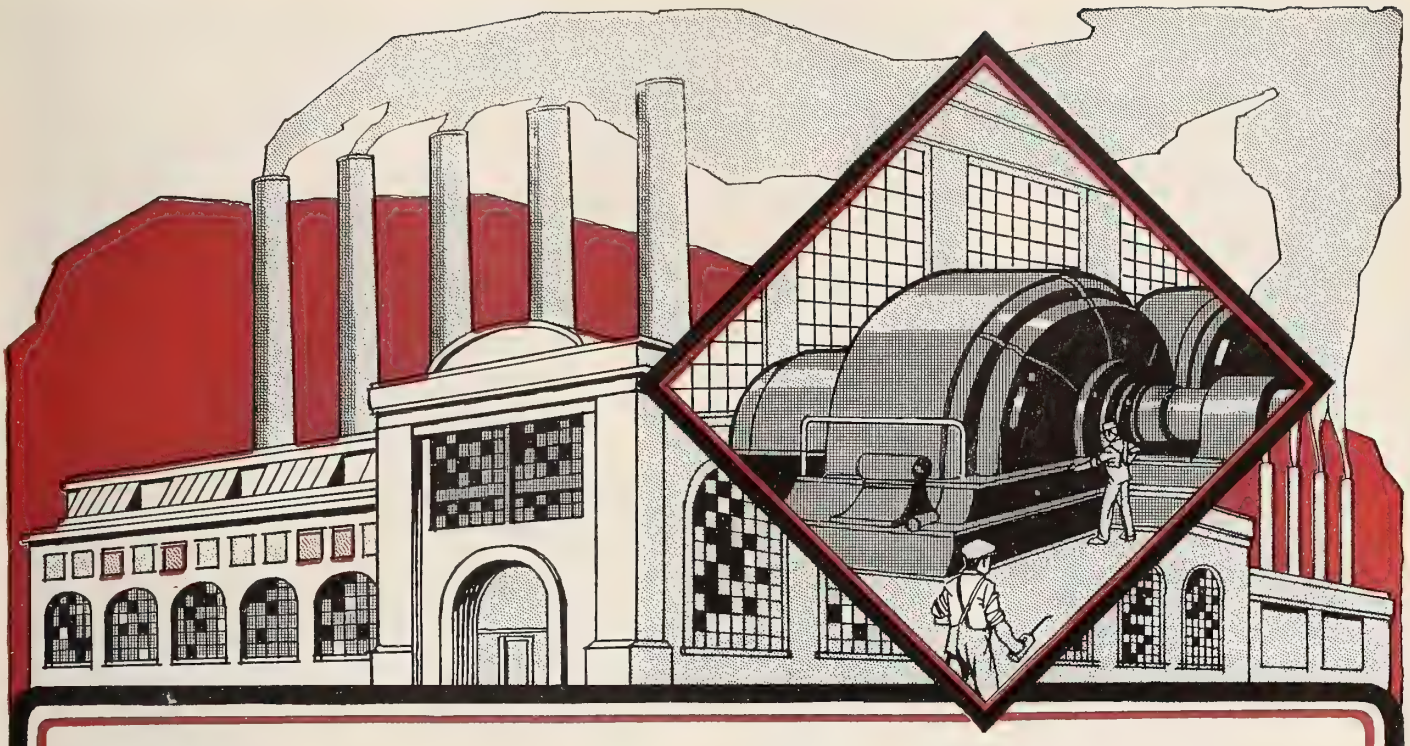
SOLE SALES AGENTS:

M. A. HANNA & CO.

Cleveland, Ohio

BUFFALO, N.Y. PITTSBURG, PA. DETROIT, MICH

TORONTO, ONT.



IMPERIAL

Lubricants

For Manufacturing, Mining and Milling

CYLINDER OILS

Imperial Valve Oil
Imperial Cylinder Oil
Imperial Capitol Cylinder Oil
Imperial Beaver Cylinder Oil
Imperial 20th Century Cylinder Oil

ENGINE OILS

Imperial Kearsarge Engine Oil
Imperial Solar Red Engine Oil
Imperial Atlantic Red Engine Oil
Imperial Junior Red Engine Oil
Imperial Bayonne Engine Oil
Imperial Renown Engine and Dynamo Oil
Imperial Standard Gas Engine Oil
Imperial Ario Compressor Oil

Steady, Dependable Power

INDUSTRIAL success is based on power—steady, dependable power. Every mechanical unit in your plant—engines, dynamos and machines—must give 100% efficiency and therefore must be carefully and properly lubricated with lubricants of correct body.

When choosing your lubricants, you cannot afford to consider any factor other than quality. Good lubricants, like those in the Imperial line, are always most economical. They cost less per lubricating hour because they last longer; they do not wear or burn out as do poor lubricants.

Imperial Lubricants are right. They never vary in quality and will give you continuous satisfaction and better dollar-for-dollar value. They are made only from the best crudes obtainable and are as perfect as science and experience can make them.

Look over the list on the left. Among those lubricants you will find the right lubricant for every moving part of every machine in your plant. Their use will enable your plant to give steady, dependable power under every service condition.

We invite you to consult with our Lubrication Engineers. Their advice or assistance is yours for the asking. Address us at 56 Church Street, Toronto, or at any of our branches.

IMPERIAL OIL LIMITED

Power · Heat · Light · Lubrication

BRANCHES IN ALL CITIES



Canadian Carbide

Made in Canada

SOLD THE WORLD OVER

Second to None in

QUALITY, GAS YIELD AND PACKAGE

Works:
St. Catharines, Ont.
Shawinigan Falls
Que.

MANUFACTURED BY

Canada Carbide Company, Limited
MONTREAL - CANADA

Patterns of All Kinds



Castings of Iron and Brass

Offices and Works: Commercial St., Levis, P.Q., Canada

LAUZON ENGINEERING LIMITED, LEVIS, P.Q., CANADA (Opposite Quebec)

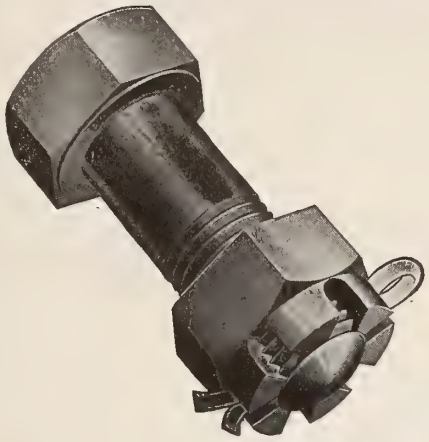
Builders of Land and Marine Engines and Boilers.
BRASS AND IRON FOUNDERS.

MECHANICAL REPAIRS OF ALL KINDS.
ENGINEERS AND CONTRACTORS.

Head Office and Plant: LEVIS, P.Q., CANADA

Building of Marine Boilers and Engines; also Installation of same on board ship our specialty.

Our shops formerly known as The Carrier-Laine Shops are at present the best equipped in the Province of Quebec for this class of work. Our Shipping facilities are unexcelled. We have a Deep-Water Wharf adjacent to our plant, and our yard sidings are connected with three railways—Canadian Government Railways, the Grand Trunk Railway, and the Quebec Central Railway. We make patterns of all kinds, and Castings of Iron and Brass.



Cap and Set Screws

Plain and Castellated NUTS

IN STOCK

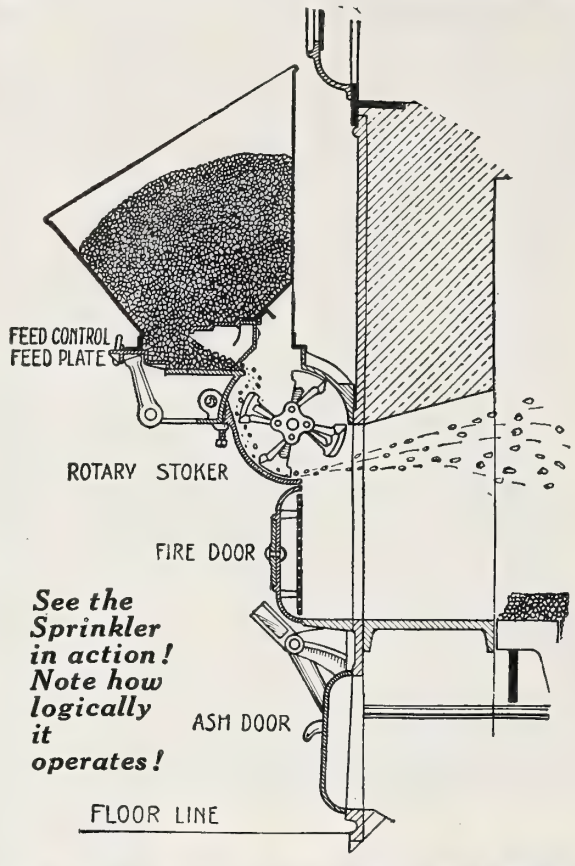
Standard sizes and threads

Special screw machine work made to specifications from Iron, Steel and Brass Bars in sizes up to 2¼" and 10½" long.

Quotations on your samples or blueprints.

The National Acme Company

De Courcelles and G. T. R. Montreal, P.Q.



See the Sprinkler in action! Note how logically it operates!

THE GALT FOUNDRY CO., Limited

OFFICE AND WORKS:

Galt - - Ontario

THE GALT SPRINKLER STOKERS

For Smokeless and Economical Combustion and Utilizing Low-Grade Fuels.

For Power and Heating Boilers, Annealing Furnaces and other Installations.

Are installed in many of Canada's largest plants and are giving satisfactory results in economy of fuel and operating costs.

Can be installed with any type, size and make of boiler.

Can be quickly installed in existing plants with only minor changes in setting.

Will burn any kind of fuel, from anthracite dust to two and a half inch lump.

Maintain a fuel bed of uniform thickness over entire grate surface.

Furnace can be hand fired if necessary without interfering with Stoker.

Simple in construction----maintenance cost very low.

Our combustion engineers are at your service. Ask for Catalogue

We also manufacture the "McNAUGHTON" SECTIONAL ROCKING GRATE BAR and other Shaking Grate Bars



Dependable and Efficient Power Equipment

Land

Horizontal and Vertical Steam Engines

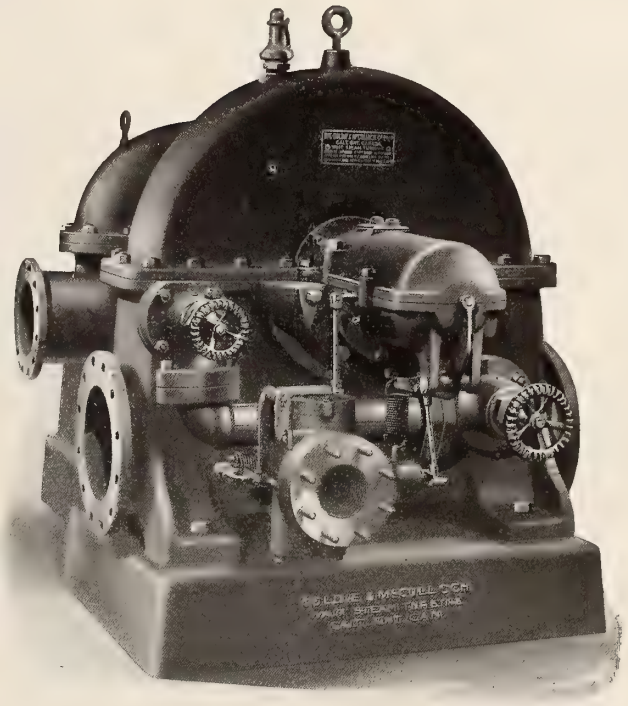
Steam Turbines

Return Tubular and Water Tube Boilers

Heaters

Centrifugal and Reciprocating Pumps and Condensers

Transmission Appliances



Marine

Compound and Triple Expansion Marine Engines

Ships' Lighting Sets

Vertical Bilge and Ballast and Boiler Feed Pumps

"Contraflo" Condensers Heaters Filter and Drain Tanks

Morison's Radial Evaporators

Ships' Side Lights etc.

Illustration shows a Goldie & McCulloch "Wait" Steam Turbine direct connected to centrifugal pump.

We also build SAFES, VAULTS AND VAULT DOORS, Deposit Boxes, etc. G. & McC. Co. Safes have never failed to preserve their contents in all of Canada's great fires for the last forty years.

Any of our catalogues and the advice of our Engineering Department are yours for the asking.

THE GOLDIE & McCULLOCH CO., Limited

Head Office and Works: GALT, ONTARIO, CANADA

TORONTO OFFICE: Suite 1101-2 Bank of Hamilton Bldg.

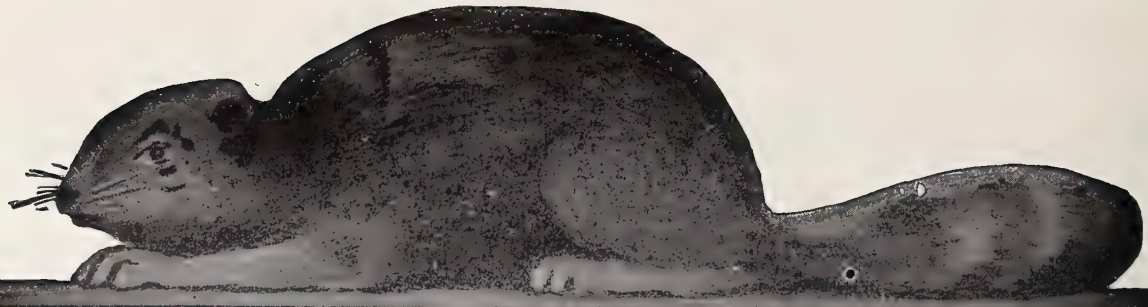
WESTERN BRANCH: 248 McDermott Ave. Winnipeg, Man.

QUEBEC AGENTS Ross & Greig 400 St. James St., Montreal, Que.

BRITISH COLUMBIA AGENTS: Robt. Hamilton & Co. Vancouver, B.C.

B.C. Safe Agent: C. L. FORD, 569 Richards St. Vancouver, B.C.

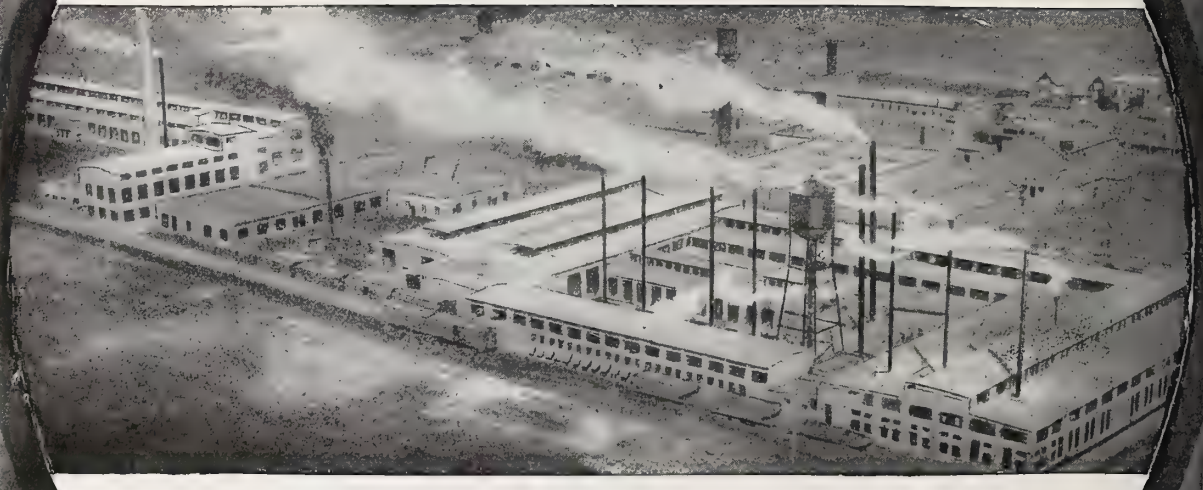
Maritime Safe Agent: E. L. STAILING, 16 Roy Bldg., Barrington St. Halifax, N.S.



BROWN'S

Beaver Brand Metals

Copper, Brass, Bronze, Canada Silver, and Gilding Metal in sheets, rolls, plates and rods. Naval Bronze, Yellow Metal and Muntz Metal in sheets and rods for shipbuilding requirements. Specify Beaver Brass Rod for drilling and free cutting. Extruded shapes.



Guaranteed Ingot Metals—Yellow, Red and Composition Ingots.
We are Purchasers of Copper Bearing Material.

Link up with Beaver Brand Products—you'll like the quality, price and service.

Brown's Copper & Brass Rolling Mills, Limited

New Toronto, Ont., Can.

COPPER & BRASS
BROWN'S
QUALITY
ROLLING MILLS



Speed up with Electric Power

C-G-E Motors and Control increase production and reduce maintenance

The illustration on the right shows 19 C-G-E Motors, each 175 H.P., driving tube mills in a cement plant. On the left is shown a 50 H.P. C-G-E Motor in a rubber plant.

These are some of the ways in which modern industry has been speeded up by putting electric power to work in the right place.

The engineering problems solved in putting electric power to work in these and other industries were many and intricate. Production of electrical equipment suited to this work and in quantities required is an important part of this company's service to Canadian industries.

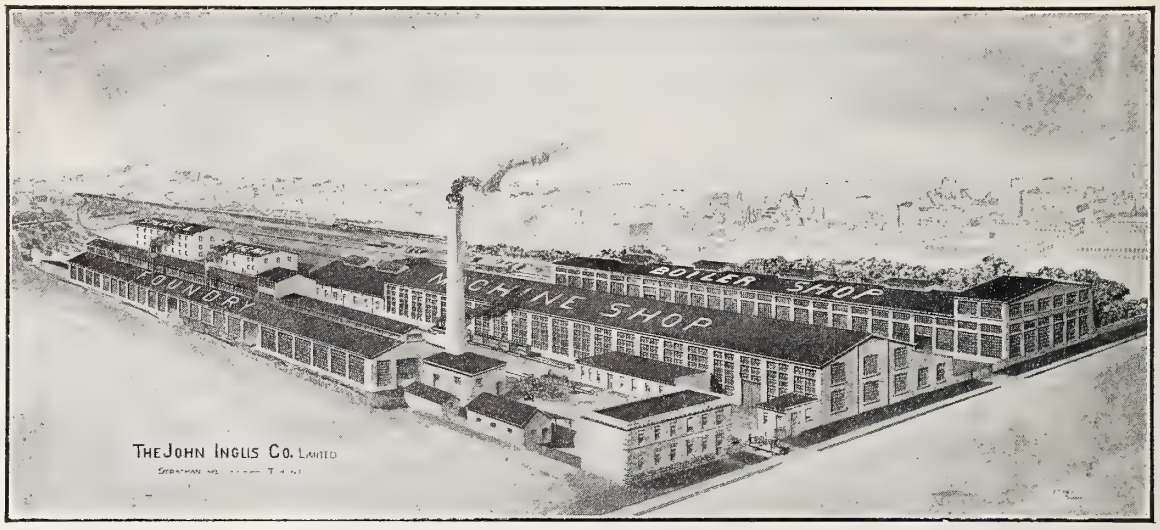
Any problem involving the use of power can be simplified by the application of electricity. The Canadian General Electric Company is well equipped to lend valuable assistance in working out such problems and is glad to co-operate with contractors, manufacturers and engineers in every possible way.

C-G-E Motor Drive

For further particulars, write to our nearest office

CANADIAN GENERAL ELECTRIC CO., Limited

Head Office: Toronto. Sales Offices: Montreal, Halifax, Sydney, St. John, Ottawa, Cobalt, South Porcupine, Hamilton, London Windsor, Winnipeg, Calgary, Edmonton, Nelson, Vancouver and Victoria



Plant of the John Inglis Co., Limited

ENGINES BOILERS AND TANKS

of All Kinds for Any Service

Send us your enquiries

THE JOHN INGLIS COMPANY, LIMITED

Engineers and Boilermakers

14 STRACHAN AVENUE - TORONTO, CANADA

Representatives in Eastern Canada—JAS. W. PYKE & CO., Limited, 232 St. James Street, Montreal

Ottawa Representative—J. W. ANDERSON, 7 Bank Street Chambers



Tires Led the way to Better Hose



THE hose industry stretches back into the early days of rubber history.

For year after year rubber hose had been built upon the immature principles of those early days.

But Goodyear has developed new and higher standards of hose efficiency.

Just as broad-visioned Goodyear chemists and engineers cut loose from tradition and built tires in a better way, so have they built industrial hose.

Old processes—obsolete methods have been forgotten. Only those processes, formulae and methods proved by service tests and experiment to be best enter into the manufacture of Goodyear Industrial Hose.

Hose linings which do not crack or harden have been developed.

Outer covers with an exceptional degree of toughness to withstand the wear of severe industrial service—another distinctly Goodyear feature.

In a word, Goodyear has built better hose. Original cost did not count if greater final economy and increased efficiency were a sure result.

You cannot know how far short of complete satisfaction ordinary hose falls until you experience the greater perfection of Goodyear Industrial Hose.

Give Goodyear Hose a trial now. There is a particular Goodyear Hose for every industrial purpose—water, steam, pneumatic tool, air drill, railway, fire, suction, etc.

Phone, wire or write to the nearest branch for a man trained in hose problems to study your needs. No obligation.

The Goodyear Tire & Rubber Co. of Canada, Limited

Halifax, St. John, Quebec, Montreal, Ottawa, Toronto, Hamilton London, Winnipeg, Regina, Calgary, Edmonton, Vancouver.

GOODYEAR
MADE IN CANADA

INDUSTRIAL HOSE

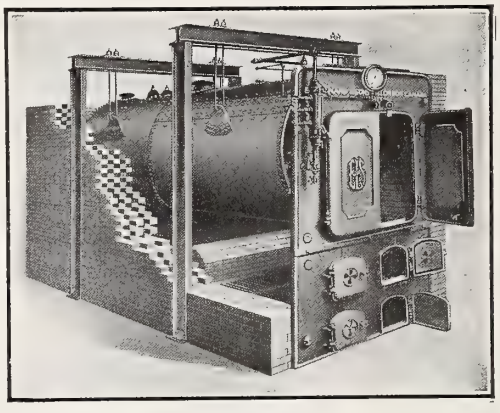


FINISHED BRIGHT
FOR
ELECTRO PLATING
DEEP DRAWING QUALITY
ACCURATE GAUGE AND WIDTH
WE SOLICIT YOUR ENQUIRIES

MANUFACTURED BY
STANLEY STEEL CO., LTD.
Hamilton, Canada

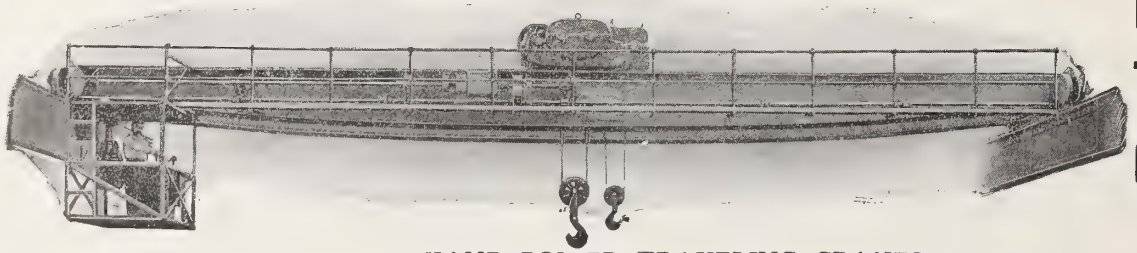
E. LEONARD & SONS, LIMITED
London, Ontario

Manufacturers of BOILERS, ENGINES of all types and sizes



BRANCHES:
1790 St. James St., Montreal, Que. 62 Water Street, St. John, N.B.
AGENTS:
Vancouver Machinery Depot, Limited, Vancouver, B.C. George Stewart, 5 Lineham Block, Calgary, Alta.
Wm. W. Hicks, 567 Banning St., Winnipeg, Man. Thos. A. Pippy, Waldegrave St., St. Johns, Nfld.
E. J. Philip & Sons, 103 Hamilton Trust Bldg., Toronto, Ont.

"CRANES MADE IN CANADA"



Electric Traveling Cranes

HAND POWER TRAVELING CRANES
ELECTRIC HOISTS, AIR HOISTS, FOUNDRY EQUIPMENT
Northern Crane Works, Limited - - - - Walkerville, Ontario

Clydesdale

MOTOR TRUCKS

MADE IN CANADA



Every User is a Satisfied User

The space allotted to us at the Exhibition permitting of the display of only one model, we selected a Clydesdale 5-Ton Truck, equipped with Hydraulic Hoist and Steel Dumping Body—of especial interest on account of the Road Building activities throughout the country.

We extend an invitation to those interested in motor trucks to visit our Toronto Plant and inspect our complete line of Clydesdale Motor Trucks, built in 1—1½—2—3½ and 5-ton capacities.

Perfection of design—faithfulness of service—the highest quality of material—and the sturdiness of construction combine to establish the Clydesdale trucks in their enviable position as wonderful transportation performers. They give constant, uninterrupted service, and

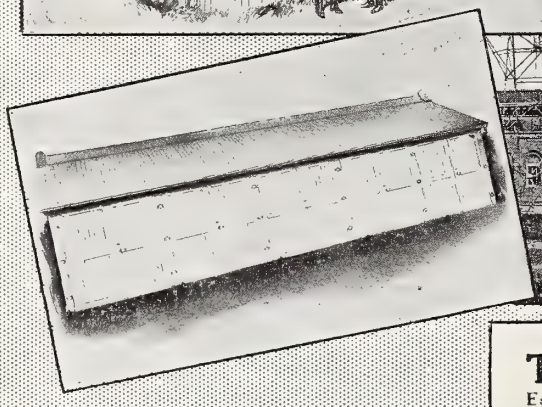
They are Made in Canada

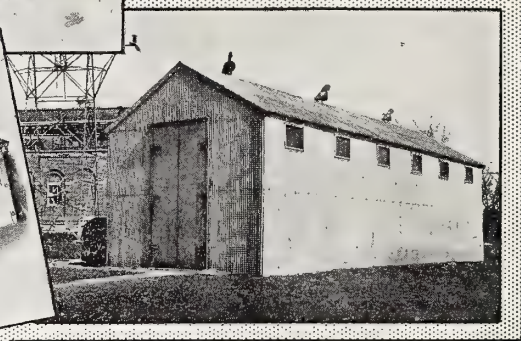
THE CLYDE CARS COMPANY CANADA LIMITED

General Office and Plant—73 Pearl Street
TORONTO, CANADA

PEDLAR'S "PERFECT" PORTABLE STEEL BUILDINGS







Industrial Expansion

is easily, quickly and economically taken care of by PEDLAR'S "PERFECT" PORTABLE STEEL BUILDINGS.

When you want a building for any purpose and want it immediately, put up a Pedlar Steel Building. We can supply you with portable Steel Buildings in interlocking sections, all ready to erect, any size you require, with wired glass windows, doors and ventilators ready to place in position.

Or, if you prefer, get Pedlar's Corrugated, Galvanized Steel Sidings and Corro-Crimp Roofing, and buildings of any size or shape may be erected in a few days by ordinary unskilled workmen.

Write for Steel Building Book I.C.

THE PEDLAR PEOPLE LIMITED

Established 1861 **Executive Offices and Factories: Oshawa, Ontario**

Branches---Montreal, Quebec, Ottawa, Toronto, Winnipeg, Vancouver

Nova Scotia Steel & Coal Co.
LIMITED

PLATES

1/8 to 5/8" thick up to 48" wide, weighing up to 1060 lbs. each

Fluid Compressed Steel Forgings

We manufacture Merchant Bars, Rounds, Flats, Squares, Ovals, Half Ovals, Tires, Sleigh Shoes, Plain or Twisted Concrete Bars, Agricultural Sections, Cold Drawn Shafting, Machinery Steel, Angle Bar Fish Plates, Track Spikes and Bolts.

General Sales Office:
WINDSOR HOTEL, MONTREAL

Head Office:
NEW GLASGOW, N.S.

BAKING AND AIR DRYING JAPANS, ENAMELS, ETC.

for all kinds of uses

also

COLORS IN OIL AND JAPAN

MANUFACTURED BY

The Ault & Wiborg Co.

of Canada, Limited

DYES

DRY and PULP COLORS for ALL LINES

CHEMISTS IN ALL DEPARTMENTS FOR CONSULTATION REGARDING SPECIALTIES

ADDRESS US AT ANY ONE OF THE THREE CITIES:

Montreal TORONTO Winnipeg

Oxy-Acetylene Welding and Cutting



This welding repair on broken crank shaft saved an expensive tie-up, at a cost of 50c.

Reduces Repair Costs Saves Time and Money

Oxy-Acetylene Welding is saving hundreds of thousands of dollars annually in Canadian Factories, Mills, Mines, Machine Shops, and wherever metal or machinery is used. Broken machinery parts, tools and defective castings are quickly and permanently repaired. Many economies and advantages are derived from welding in construction as well as repairing.

Prest-O-Lite PROCESS

employs both gases (acetylene and oxygen) in portable cylinders. Prest-O-Lite Dissolved Acetylene is backed by Prest-O-Lite Service, which insures prompt exchange of full cylinders for empty ones. Provides dry, purified gas, insuring better welds, quicker work and lower operating cost.

Apparatus consists of an equal pressure blow pipe, automatic regulators and gauges, and all necessary equipment. Adaptable for oxy-acetylene cutting by the addition of special cutting blow pipe.

Thorough instructions are furnished free to every user of Prest-O-Lite Dissolved Acetylene. Any average workman who understands metals can learn the welding process quickly and easily.

We will gladly send illustrated literature and interesting data showing actual instances of savings made by others. It may suggest valuable ideas to you. Write for it.

Address Department C-104

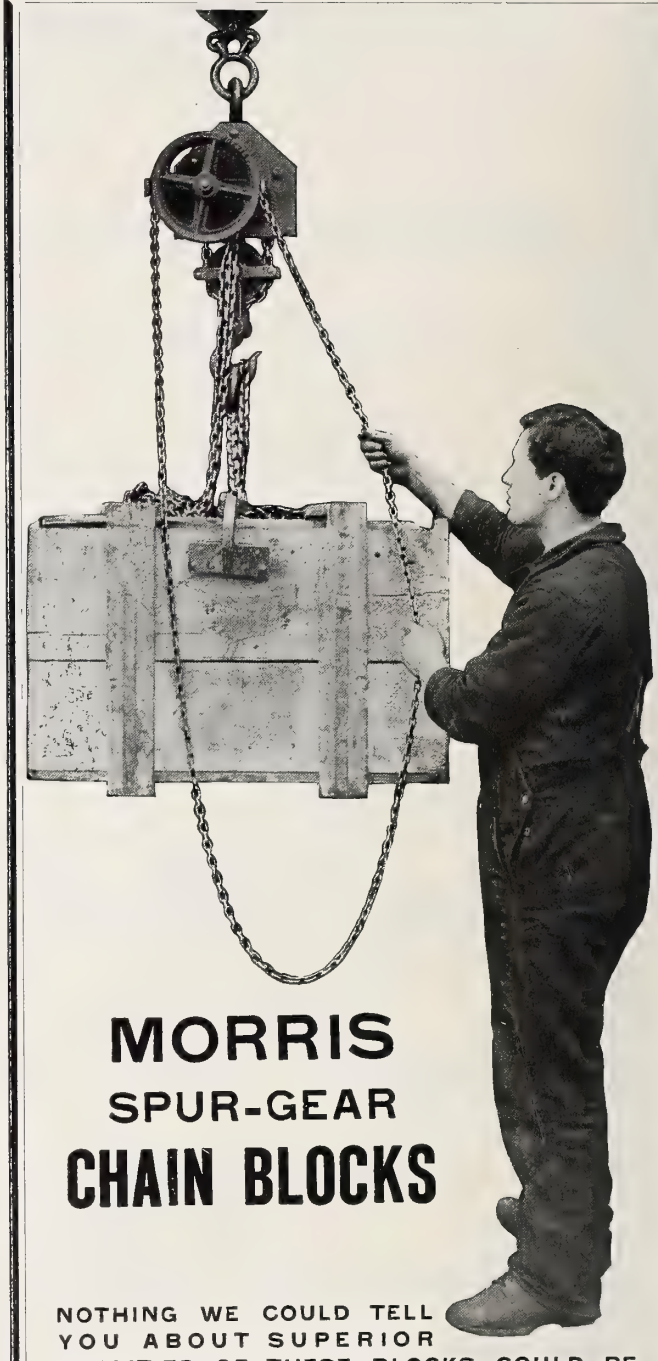
PREST-O-LITE COMPANY OF CANADA, LIMITED

Prest-O-Lite Building,
Cor. Elm Street and Centre Avenue
TORONTO

Plants:
TORONTO, Ont. SHAWINIGAN FALLS, P.Q.
MERRITTON, Ont. ST. BONIFACE Man.



World's Largest Makers of Dissolved Acetylene



MORRIS SPUR-GEAR CHAIN BLOCKS

NOTHING WE COULD TELL YOU ABOUT SUPERIOR QUALITIES OF THESE BLOCKS COULD BE HALF SO CONVINCING AS AN ACTUAL TEST IN YOUR OWN SHOP UNDER ORDINARY WORKING CONDITIONS.

MADE IN CAPACITIES FROM ½ TON TO 5 TONS. PORTABLE AND TRAVELING TYPES.

WE ALSO BUILD THE WORM AND TRIPLE GEAR TYPES FOR LARGER CAPACITIES. ASK US ABOUT THEM.

The Herbert Morris Crane & Hoist Company, Limited

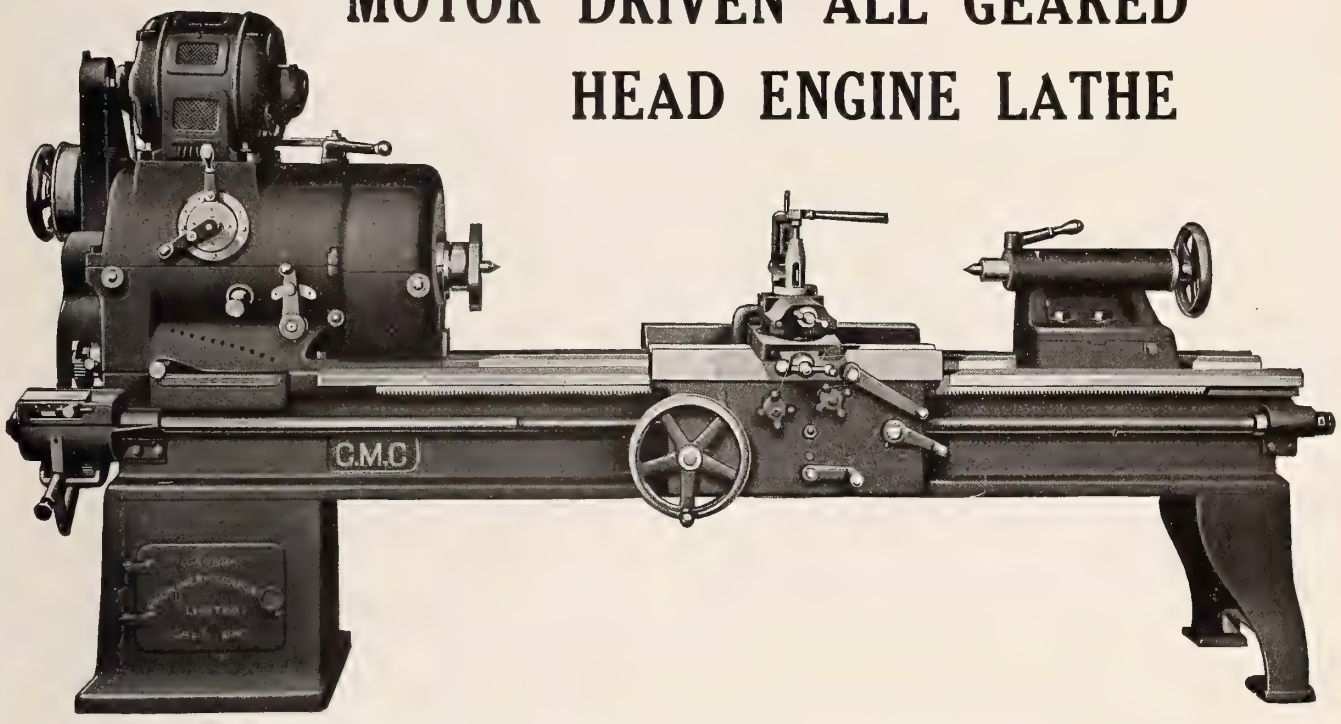
NIAGARA FALLS ONTARIO

TORONTO OFFICE, Kent Building

MONTREAL OFFICE 296 St. James St.

ADVANTAGES OF THE C.M.C.

MOTOR DRIVEN ALL GEARED HEAD ENGINE LATHE



Built in Sizes from 16 inch to 26 inch

This lathe has many advantages over the belt driven machines and other all geared lathes.

You place the machine, attach the wires and commence operation. You may place it where and how you like, regardless of shafting alignment or position—where it is most convenient or least in the way of other equipment as your fancy suits.

You may operate it at will—when all other machines are still for that matter. It is just the thing for overtime rush jobs or repairs.

There are no belts to catch clothing or fingers.

Headstock—Eighteen speeds are obtained with only thirteen gears, giving a maximum number of speeds with a minimum number of parts; as many eight and twelve speed heads have as many or more gears than this design.

CANADA MACHINERY CORPORATION, LIMITED, GALT, ONTARIO

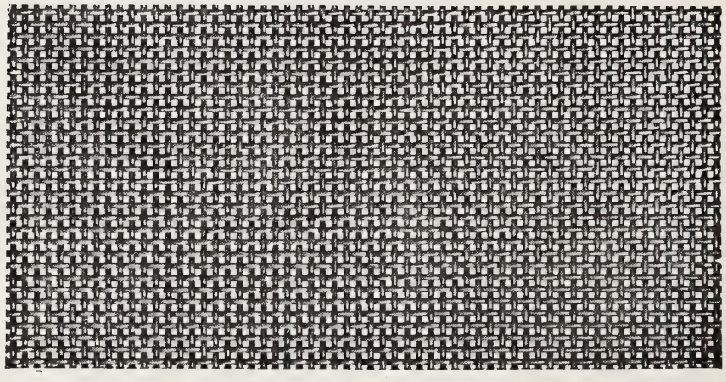
TORONTO OFFICE AND WAREROOMS - - - - BROCK AVENUE SUBWAY

THE B. GREENING WIRE CO. LIMITED

MANUFACTURERS OF

WIRE CLOTH WIRE ROPE

PERFORATED METALS



Hamilton, Ont. **Montreal, Que.**

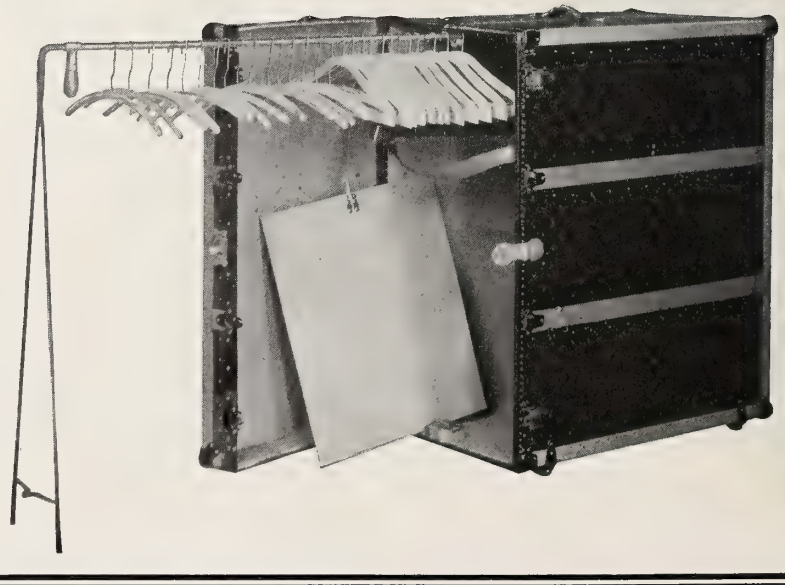
SHOW YOUR SAMPLES UNWRINKLED

WARDROBE TRUNKS

for Suits, Coats, Dresses and Waists

WE MAKE
SAMPLE TRUNKS
AND CASES
FOR EVERY
BUSINESS

Let us know your needs and get our prices.



The M. Langmuir Mfg. Co. of Toronto
Limited

Canadian Hart Wheels

CUT FASTER LAST LONGER

Than any other wheels on the market



OUR NEW MODERN PLANT

Tell us the service you want performed and we will supply you with an abrasive wheel that will save you time, money and worry.

Send for one of our catalogues and tell us your troubles. We do the rest.

CANADIAN HART WHEELS LIMITED
HAMILTON - - ONTARIO



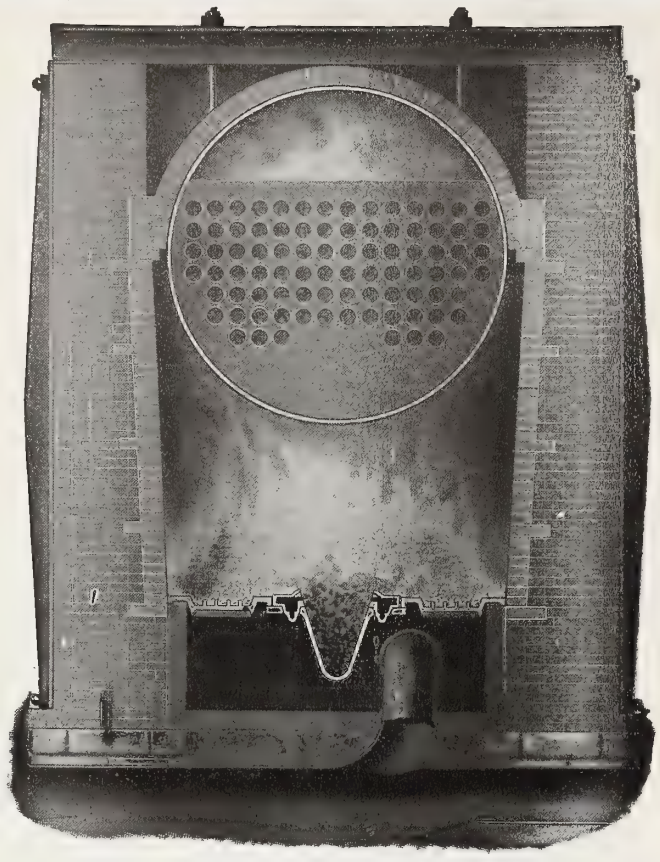
The Wm. Kennedy & Sons, Limited

Owen Sound, Ontario

Headquarters for Propeller Wheels, Ship Windlasses, Capstans, Winches, Steering Engines, Mill Gearing, Turbine Water Wheels, etc.

Iron and Steel Castings

GIVE CANADIAN SHOPS THE PREFERENCE.



Let a JONES reduce your coal bills!

The high price and scarcity of coal this fall calls for more economy in the boiler room, and the Jones Underfeed Stoker will effect that increased economy by permitting you to use a lower grade of fuel, by getting more heat units out of any grade of fuel used, and also by lessening the work of firemen.

The **JONES** feeds coal from underneath, with the result that better combustion is obtained and smoke and soot reduced to the minimum. Don't allow the smoke that goes up your stack to carry with it valuable gases—use a **JONES STOKER** and those gases will be consumed in the combustion chamber, heating your feed water instead of being wasted in the air.

The **JONES** will burn fuel of any grade—from dust to run of mine—with savings over ordinary methods of hand firing from 15 to 25 per cent.

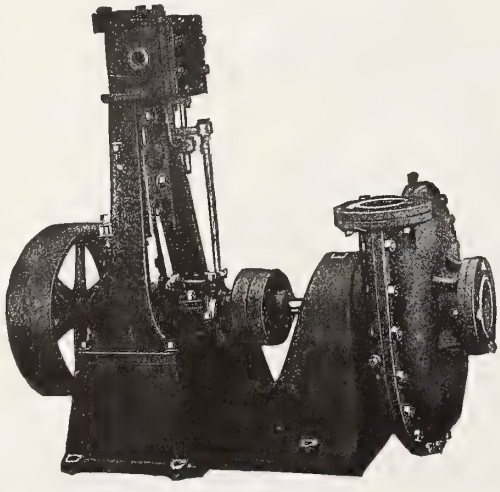
Booklet on Request

Jones Underfeed Stoker Co.
Limited
37-41 Britain Street, Toronto

We do everything to sell our

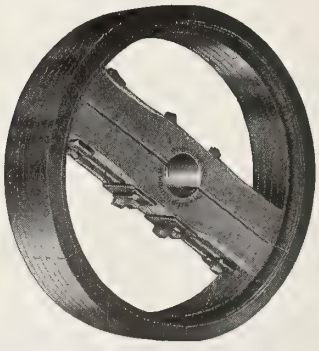
PUMPS

but misrepresent them



Give us an opportunity to show you how well we can fit your needs.

The Smart-Turner Machine Co.
Limited
HAMILTON - CANADA



General Efficiency Demands the Use of

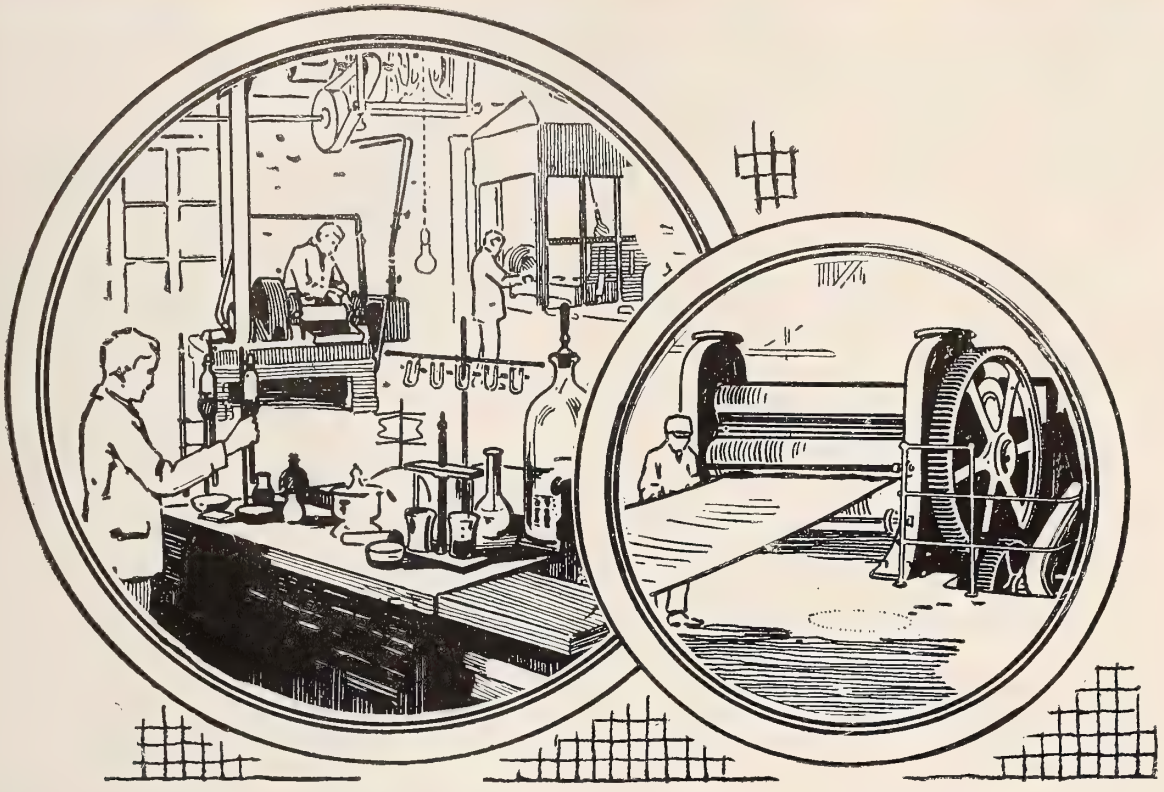
BERNARD
Wood Split Pulleys

The war is ended so far as a continuation of the bloody combats of the battlefields is connected. But in the war after the war there will be waged lively battles for industrial supremacy wherein the advantage will lie with the plant equipped with the most economical and durable machinery.

Competition will be more intense, and in this connection, keep your eye on the overhead. It has been looming large these past few years and must certainly come down.

BERNARD Wood Split Pulleys will help you eliminate power waste; their cost is low, their efficiency is GREAT.

The A. Bernard Industrial Co.
Manufacturers of High-Grade Power Transmission Appliance
Office and Works: Fortierville, Que., Can.



The Quality Standard that Produces "Plus Service" Belting

The only sure way to get satisfactory service is to buy products of known worth. In Dominion Rubber System Belting, the worth is known because every ounce of material—each individual operation and each finished belt must test up to the highest quality standard ever made for belting.

From the time the materials come into our factory until the belt is running on your pulleys, there is no chance of your getting anything but "plus service" belting.

This is the result of over fifty years of belt-making experience and research by the oldest, largest and most completely equipped rubber organization in Canada.

The rubber that goes into Dominion Friction Surfacing Belting is not a mere water-proofing substance—our chemists have given it a far greater value by making it into a friction compound that prevents practically all power wastage on the pulleys.

"Plus service" includes the free technical advice of our belting engineers who are ready to help you with your transmission and conveying problems without placing you under obligation to us.

A phone call, wire or letter to our nearest branch places all of our facilities at your disposal.

CANADIAN CONSOLIDATED RUBBER CO. LIMITED
DOMINION RUBBER SYSTEM
AND ASSOCIATED COMPANIES

Service Branches

Halifax	London	Saskatoon
St. John	Kitchener	Edmonton
Quebec	North Bay	Calgary
Montreal	Fort William	Lethbridge
Ottawa	Winnipeg	Vancouver
Toronto	Brandon	Victoria
Hamilton	Regina	



CANADA'S PROSPERITY RESTS WITH *YOU*

Continued Business Activity and Good Wages Depend on Canada's New Victory Loan

DURING the past four years Canada's prosperity has been due largely to orders from Great Britain and our Allies.

Canada was able to obtain these orders because she advanced credit to these countries.

Canada was able to give this credit only because you bought Victory Bonds.

Great Britain, with France, Belgium, and other Allies, are now prepared to place large orders with us for the products of our factories, farms, forests and fisheries—provided Canada again gives them credit.

Credit must be given if we are to have any guarantee of good times and good wages. But our workers on these orders must be paid their wages in cash; so, much of the money that you invest in Victory Bonds will go out in wages to Canadians.

You will be absolutely protected—you will get a good rate of interest and all of your money will be paid back at the time stated in the Bond.

Every cent will be spent in Canada, and ultimately circulate to the benefit of all.

Canada can give this credit only if you again buy Victory Bonds.

If Canada is not able to give this credit, other countries will.

Therefore Canada's continued prosperity rests with you.

Victory Loan 1919

"Every Dollar Spent in Canada"

Issued by Canada's Victory Loan Committee, in co-operation with the Minister of Finance of the Dominion of Canada.

FACTORY ESSENTIALS

IN these days when every ounce of productive effort is needed in order to keep costs at a minimum, much thought is being directed to co-ordinating the smooth and continuous running of high-powered machinery with a proper working environment. That environment should inspire to the highest degree a condition of contentment and mental relaxation upon the part of employees in industrial establishments.

The busy executive will find many helps in his search for electrical and mechanical devices to assist in the working out of many problems connected with industrial management in the factory essentials included in the products of the Benjamin Electric Manufacturing Company.

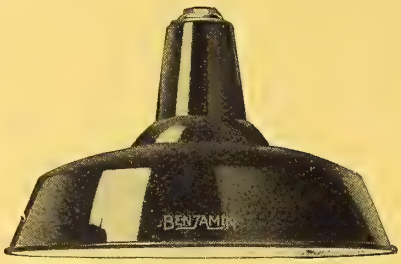
On the following pages only a few examples of typical Benjamin products are shown. However, should interest in any of these be aroused, catalogues and other descriptive literature, copiously illustrated and replete with information upon the full line, will be sent gladly on request. Address Advertising Department, Toronto.

Benjamin Electric Manufacturing Company of Canada, Limited

HEAD OFFICE AND WORKS

11-17 CHARLOTTE ST. TORONTO, ONT.

Benjamin



R-L-M Standard Dome Reflector

A one-piece lighting unit with no welded joints, no metal edges nor seams to foul or corrode. Designed to utilize the high intrinsic brilliancy of the Mazda C lamp to secure just that degree of general illumination which the consensus of good opinion has determined to be correct for the work under illumination.

Deep Bowl Reflector

For localized and general lighting. Of particular advantage where a high degree of concentration is required over comparatively small areas. Deep bowl reflector sockets have ventilated porcelain enameled steel reflectors and easy-to-wire socket.





Elliptical Angle Sockets

Indispensable where it is necessary to secure an even distribution of light from an angular position for the illumination of narrow bays, platforms, and industrial locations where overhead cranes and other equipment preclude suspended lighting units.

Two-Way Parabolic Reflector

Adapted for the economical lighting of narrow passageways in warehouses and stockrooms. Weatherproof qualities render it especially adaptable for outdoor lighting of roadways, rail-crossings, bridges, tunnels. A superior unit for protective lighting of plant guard fencing.



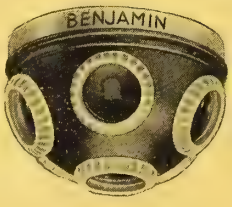


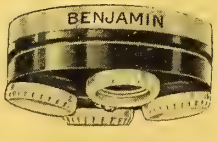
Shallow Bowl Reflector

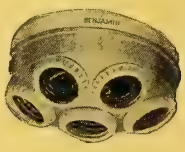
For general lighting with moderately high ceilings. Especially adaptable in machine shops and other industrial locations where a high level of good illumination is required, free from sharp contrasts and impeding shadows.

Cluster Sets

One of the most useful expedients in lighting ever devised for the grouping of small lamps. Practically any suggestion for indoor and outdoor industrial lighting may be met through the wide range of multiple, straight series, and series-multiple combinations available.







Ceiling Units

For a great variety of uses where low ceiling heights and confined spacings suggest appropriate treatment. Particularly adaptable for office, hallway, corridor, and entrance lighting.



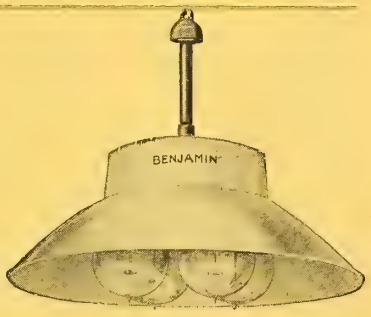


Moisture and Dust-Proof Fixtures

For foundries, fertilizer plants, refineries, and other industrial locations where dust particles, steam and vapor, and by-product fumes require special coverings.

Industrial Clusters

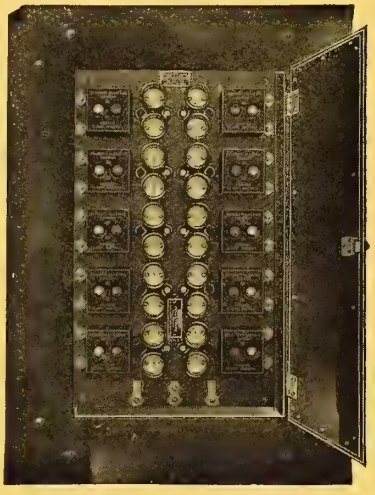
In many varieties, for mills and factories. Equipped with white enamelled steel reflectors, with superior arrangements for ventilation.





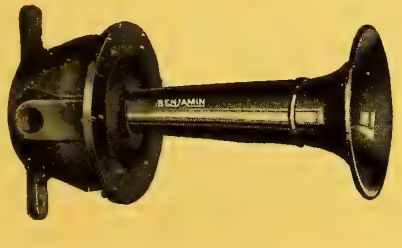
Porcelain Sockets and Receptacles

In a variety of forms, with features of interchangeability for attachment to a variety of caps and bases. Wherever a rugged, highly insulated fitting should be used, these devices will give superior service.



Panel Boards and Cabinets

A highly developed line of unit panels conforming to the strictest rules of Underwriters' Laboratories. Standard Unit Panel Boards of 4, 6, 8, and 10 circuits may be combined to make up boards of any capacity.

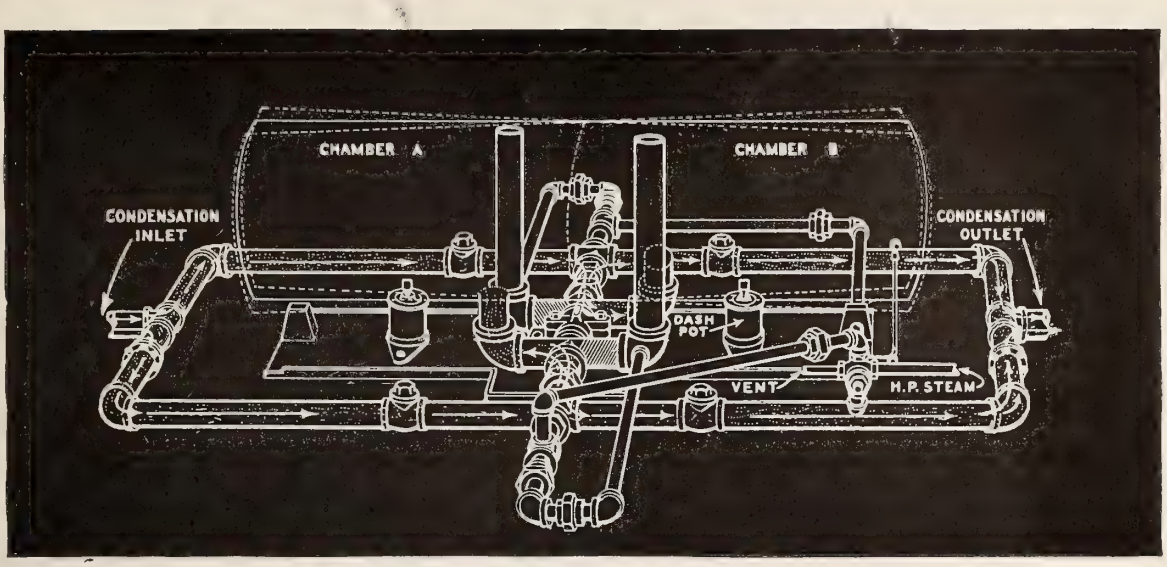


Industrial Signals

For installation on either alternating or direct-current circuits. The high-pitched, insistent call of the Benjamin Industrial Signal commands attention over all industrial noises.



TYPICAL INSTALLATIONS OF BENJAMIN INDUSTRIAL LIGHTING



Farnsworth Condensation Pumps

Farnsworth Condensation Pumps offer a double saving through their closed system of keeping the Condensate under pressure and returning the maximum number of heat units to the boiler at the same time operating on a small friction of steam required to operate a reciprocating pump.

This feature of Condensation Pumps is sufficient to recommend them for your consideration when making a replacement. This type of pump and steam trap are fast gaining favor in plants where pumps are employed.

Let us tell you how these Pumps are operating in other large Canadian Plants.



The Canadian Fairbanks-Morse Co.
Limited

"Canada's Departmental House for Mechanical Goods"

St. John Quebec Montreal Ottawa Toronto Hamilton Windsor
Winnipeg Saskatoon Calgary Vancouver Victoria



Salt Plant Windsor, Ont.

UNSURPASSED

Don't risk. Use salt and chemical products which are unquestionably the best.

Windsor Salt
Regal Salt
Caustic Soda
Chloride of Lime
and
Bleaching Powder

are made in the most modern plant in Canada under conditions which insure such a standard of perfection that it puts them in a class by themselves.

Buy Made-in-Canada Products

THE CANADIAN SALT CO. LIMITED
WINDSOR, ONTARIO



Chemical Plant Sandwich, Ont.

Castor Oil
Cocoanut Oils
English Degras

We are direct importers of vegetable oils. Can make immediate delivery of Cocoanut and Castor Oils, English Degras and English Linseed Soap.

DOMINION OIL COMPANY
LIMITED
Royal Bank Building
HAMILTON - - ONTARIO

Write for Prices

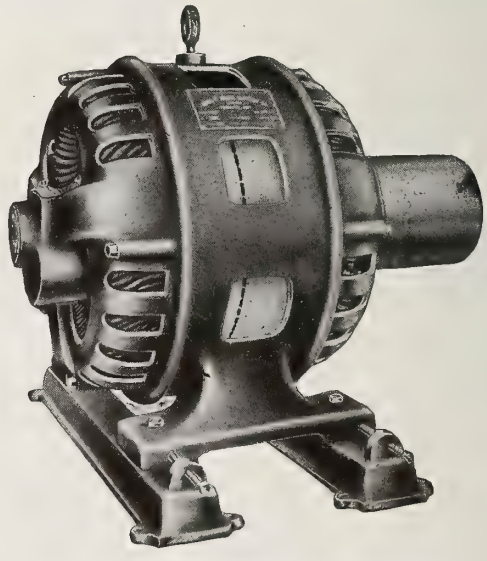
on

SINGLE PHASE MOTORS

REPULSION and SPLITPHASE Types

Toronto and Hamilton Electric Co. Limited
99-103 McNab St. N.
Hamilton, Ont.

Jones & Moore Electric Co. Limited
294-300 Adelaide St. West - TORONTO

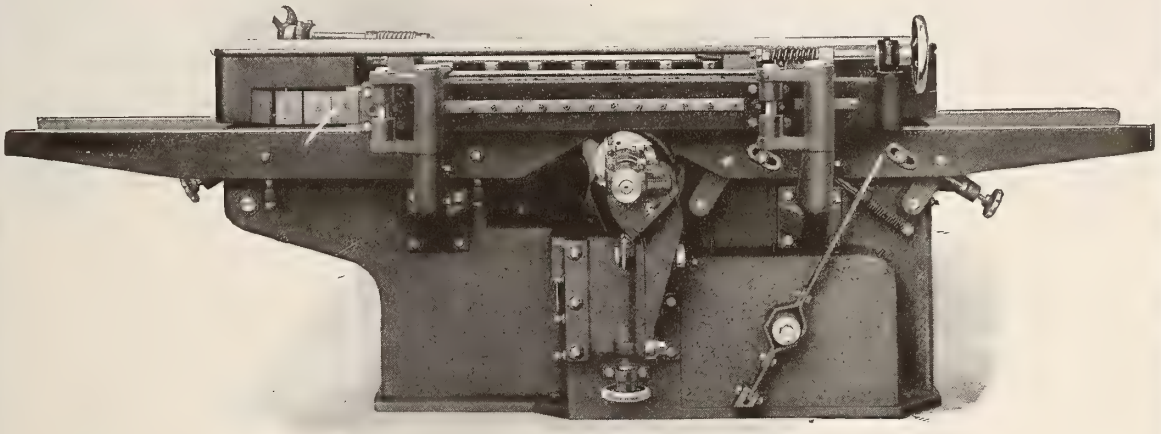


ONTARIO REPRESENTATIVES FOR

CENTURY ELECTRIC MOTORS

We make Alternating and D. C. Motors and Generators and
REPAIR ALL KINDS OF ELECTRICAL MACHINERY

Make Glue Joints Scientifically



"The Invariable Choice of the Man Who Knows."

The Yates No. 213 Glue Jointer

Is scientifically correct in design. It makes glue joints with absolute accuracy at many times the speed possible on a hand jointer. The continuous feed mechanism is simple but effective. Infeed table adjustment is exclusive feature of this Glue Jointer. Send for our free Glue Jointer Book, which contains 30 pages of interesting illustrations and clear description concerning this machine.

Yates

P. B. Yates Machine Co. Ltd.
HAMILTON, ONT. CANADA
U.S. PLANT, BELOIT, WIS.



Above Illustration shows a few recent Canadian installations

Canadian Mathews Gravity Carrier Co., Ltd.

Head Office and Factory - - - - PORT HOPE, ONT.

For full information send for Bulletin G.

INDEX TO DISPLAY ADVERTISEMENTS

Adams Cellboard Co. 158
Algoma Steel Corporation, Ltd. 12
Andrews, H. V. 125
Armstrong, Whitworth Co. of Canada, Ltd. 139
Atkins, E. C., & Co. 92
Ault & Wiborg Co. 27

Bank of Montreal 88
Barber-Ellis, Ltd. 96
Barrett Co., Ltd. 46
Bathurst Lumber Co. 109
Beatty, M., & Sons, Ltd. 112
Benjamin Electric Mfg. Co. 35-38
Bennett & Wright Co., Ltd. 8
Bernard Industrial Co., The A. 32
Bertham, John, & Sons, Ltd. 5
Boiler Inspection and Insurance Co. 146
Booth-Coulter Copper & Brass Co., Ltd., The 113
Bradstreets 90
British American Oil Co., Ltd., Inside front cover
Brown Bros., Ltd. 90
Brown Corporation 146
Brown's Copper & Brass Rolling Mills .. 20
Burlington Steel Co., Ltd. 137
Butterfield & Co. 142

Canada Carbide Co., Ltd. 18
Canada Foundries & Forging Co. 112
Canada Machinery Corporation 29
Canada Metal Co., Ltd. 135
Canada Wire & Iron Goods Co. 8
Canadian Appraisal Co. 102
Canadian Bank of Commerce 89
Canadian Blower & Forge Co. 140
Canadian Bridge Co., Ltd. 139
Canadian Carbonate Co., Ltd. 107
Canadian Chicago Bridge & Iron Co., Ltd. 146
Canadian Collapsible Tube Co. 144
Canadian Consolidated Rubber, Ltd. ....
Outside back cover and 33
Canadian Crocker-Wheeler Co., Ltd. 3
Canadian Drawn Steel Co., Ltd. 139
Canadian Fairbanks-Morse Co. 39
Canadian Furnace Co., Ltd. 16
Canadian General Electric Co. 21
Canadian General Fire Extinguisher Co... 103
Canadian Hart Wheels, Ltd. 31
Canadian Industrial Alcohol Co., Ltd. 117
Canadian Ingersoll Rand Co. 14
Canadian Link Belt Co. 100
Canadian Manufacturers, Ltd. 106
Canadian Mathews Gravity Carrier Co. .. 42
Canadian National Railways 147
Canadian Oil Cos. 98
Canadian Pacific Railway 145
Canadian Rumely Co. 127
Canadian Salt Co., Ltd. 40
Canadian Steel Foundries 123
Canadian Tube & Iron Co., Ltd. 137
Canadian Westinghouse Co., Ltd. 44
Caron Bros. 108
Clarke, A. R., & Co., Ltd. 129
Commercial Cars, Ltd. 111
Conduits Co., Ltd. .....Inside back cover
Consolidated Mining & Smelting Co. of
Canada, Ltd. 81
Clyde Motor Truck Co. 25

Dart Union Co., Ltd. 1
Delany & Pettit, Ltd. 95
Dennis Wire & Iron Goods Co. 106
Dodge Mfg. Co., Ltd. 13
Dominion Abrasive Wheel Co., Ltd. 130
Dominion Bridge Co., Ltd. 133
Dominion Copper Products Co. 119
Dominion Forge & Stamping Co. 132
Dominion Foundries & Steel, Ltd. 124
Dominion Oil Co. 40
Dominion Tar & Chemical Co., Ltd. 135
Dominion Wire Rope Co. 139
Doon Twines, Ltd. 141
Dunham, C. A., Co., Ltd. 3
Dupont Fabrikoid Co. 130
Dominion Sheet Metal Corp. 99

Economy Fuse & Mfg. Co. 8
Eddy, E. B., & Co., The 121
Elder, Dempster & Co., Ltd. 141
Electric Steel & Metal Co., Ltd. 125
Engineering & Machine Works 118
Eureka Mineral Wool & Asbestos Co. .. 125

Foley & Co., Jas. W. 114
Foundation Co., Ltd. 99

Galt Foundry Co. 18b
Galt Knife Co. .....Inside front cover
Galt Malleable Iron Co., Ltd. 122
Gardner, R., & Sons, Ltd. 122
Garlock Packing Co. 113
Gibbons, J. J., Ltd. .....Outside front cover
Goderich Organ Co., Ltd. 90
Goldie & McCulloch, Ltd., The 19
Goodhue, J. L., & Co., Ltd. 128
Goodyear Tire & Rubber Co. 23
Grace & Co., Ltd. 1
Grasselli Chemical Co., Ltd., The 131
Gray, J. V. Construction Co. 125
Greening, The B., Wire Co., Ltd. 30
Gutta Percha & Rubber Manufacturing Co.
of Toronto, Ltd. .....Inside back cover

Hamilton Bridge Works, Ltd. 111
Hamilton Gear Co., Ltd. 6
Hamilton Motor Works 112
Hinde & Dauch Paper Co. of Canada, Ltd.,
The 131
Howard Smith Paper Mills, Ltd. 86
Hoyt Metal Co. 107
Hydraulic Machinery Co., Ltd. 9

Imperial Bank of Canada 88
Imperial Oil Co., Ltd. 17
Inglis, John, Co., Ltd. 22
International Business Machines, Ltd. .. 82-83

Johnson & Sons, C. H. 119
Jardine, A. B., & Co. 92
Jenkins Bros., Ltd. 10
Jones, J. L., Engraving Co., Ltd. 134
Jones & Moore Electric Co., Ltd. 40
Jones, Underfeed Stoker Co. 32
Joliette Steel Co. 142

Kennedy, Wm. & Sons, Co. 31
Kerr Engine Co., Ltd. 118

Laidlaw Bale-Tie Co., Ltd. 120
Langmuir Mfg. Co. 30
Lauzon Engineering, Ltd. 18
Leonard, E., & Sons 24
Leslie, A. C., Co. .....Inside back cover

Macdonald Manufacturing Co., Ltd. 132
MacKinnon Industries, Ltd. 104
MacKinnon Steel Co., Ltd. 138
Macdonald, W. C., Reg. 120
Manitoba Bridge & Iron Works, Ltd. 111
Maritime Bridge Co. 127
McDonald & Wilson, Ltd. 115
Massey-Harris Co., Ltd. 6
Maples, Ltd. 114
McClary Manufacturing Co. 110
McGregor & McIntyre, Ltd. 116
McLaren, D. K., Ltd. 128
McLaren, J. C., Belting Co., Ltd. 129
McMurrich, Geo., & Sons 81
Meadows, The G. B., Iron & Brass Works
Co., Ltd. 7
Merchants Bank 91
Milton Hersey Co. 115
Montreal Cottons, Ltd. 141
Montreal Locomotive Works, Ltd. 124
Morris, The Herbert, Crane & Hoist Co.
Ltd. 28
Morrow, John, Screw & Nut Co., Ltd. .. 121

National Acme Mfg. Co., The 18a
New Zealand Shipping Co., Ltd., The .. 144
Nichols Chemical Co., Ltd., The 127
Nicholson File Co. 136
Northern Aluminum Co., Ltd. 98
Northern Crane Works, Ltd. 24
Northern Electric Co., Ltd. 31
Nova Scotia Steel & Coal Co., Ltd. 26

Office Specially Mfg. Co. 94
Ontario Government Notices 148
Ontario Wind Engine & Pump Co., Ltd. .. 143
Ormsby, A. B., Co., Ltd. 15
Otterville Mfg. Co., Ltd. 127

Pedlar People 26
Penmans, Ltd. 141
Perrin, Wm. R., Ltd. 135
Pratt & Whitney Co. 4
Prest-O-Lite Co. 28
Purdy Mansell, Ltd. 143

Ramsay & Son, A. 138
Richards-Wilcox Canadian Co., Ltd. 2
Ritchie & Ramsay Paper Co. 95
Ridout & Maybee 138
Riordon Sales Co. 90
Rolland Paper Co., Ltd., The 93
Royal Bank of Canada 89

Stinson-Reeb Co. 127
Shipman, Harold C., & Co. 2-84-85
Shurley & Derrett, Ltd. 126
Smart-Turner Machine Co. 32
Standard Chemical Iron & Lumber Co. .. 133
Standard Underground Cable Co. 126
Stanley Steel Co., Ltd. 24
Steel Co. of Canada, Ltd., The 101
Steel Trough & Machine Co., Ltd. 146

Tallman Brass & Metal Co., Ltd. 123
Thorne, Mulholland, Howson & McPherson. 90
Thompson & Norris Co. of Canada, Ltd.
Outside back cover
Toronto Hydro-Electric System 143
Toronto Iron Works .....Inside front cover
Toronto & Hamilton Electric Co. 40
Trades & Labor Branch 148

Union Bank of Canada 91
Union Drawn Steel Co., Ltd., The 137

Victory Loan 34

Waterous Engine Works Co. 116
Wells & Gray 105
Willys Overland, Ltd. 11

Yates, P. B. Machine Co., Ltd. 41

For Buyers' Guide see page 149

The Cozy-Glow Radiator



Produces a soft, mellow glow, and throws the heat in any direction.

A trunnion allows the radiator to be adjusted.

A heavy cast-iron base insures firmness.

The radiator is readily moved from place to place.

The heating unit, which is easily removable, is wound around a porcelain cylinder and protected by a copper wire guard.

Owners of Westinghouse Apparatus are invited to make use of our Service Dept. Repair Shops, where repair work will receive prompt and efficient attention.

Repair Shops are located at:
MONTREAL—10 St. Sophie Lane
TORONTO—16 Temperance St.
WINNIPEG—158 Portage Ave. E.
CALGARY—328 9th Ave. W.

Canadian Westinghouse Company, Limited, Hamilton, Ontario

TORONTO Bank of Hamilton Bldg.
MONTREAL 285 Beaver Hall Hill
OTTAWA Ahearn & Soper, Ltd.
HALIFAX 105 Hollis St.
FORT WILLIAM Cuthbertson Block
WINNIPEG 158 Portage Ave. E.
EDMONTON 211 McLeod Bldg.
CALGARY Canada Life Bldg.
VANCOUVER Bank of Ottawa Bldg.

CANADIAN WESTINGHOUSE

INDUSTRIAL CANADA

Issued monthly as the official publication of the Canadian Manufacturers Association (Incorporated), and devoted to the advancement of the industrial and commercial prosperity of Canada.

PRESIDENT OF THE ASSOCIATION

T. P. Howard, Phoenix Bridge & Iron Works, Ltd. Montreal

VICE-PRESIDENTS

J. S. McKinnon, S. F. McKinnon & Co., Limited, Toronto
W. S. Fisher, Enterprise Foundry Co. ..... St. John, N.B.

PUBLISHING COMMITTEE

J.F. MacKay (Chairman), Willys-Overland Limited, Toronto
W. J. Bulman, Bulman Bros., Limited ..... Winnipeg
F. P. Megan, Wm. Davies Co., Limited ..... Toronto
I. H. Weldon, Provincial Paper Mills Co., Limited Toronto
J. F. M. Stewart, Pointe Anne Quarries, Limited ... Toronto
C. Howard Smith, Howard Smith Paper Mills, Ltd., Montreal

INDUSTRIAL CANADA DEPARTMENT

Advertising Manager ..... D. B. Gillies
Editor ..... W. A. Craick

OTTAWA OFFICE (217 Booth Building)

Representative..... G. M. Murray
Assistant..... E. Blake Robertson

C.M.A. OFFICIALS

Head Office, Toronto

General Manager.....J. E. Walsh
General Secretary.....J. T. Stirrett
Manager, Transportation Department.....J. E. Walsh
Assistant Manager, Transportation Department..S. B. Brown
Managers, Insurance Department..Willis, Faber & Co., Limited
Manager, Tariff Department.....J. R. K. Bristol
Manager, Commercial Intelligence Department..Alex. Marshall
Secretary, Legal Department.....H. Macdonald
Manager, Trade Sections Department.....J. M. McIntosh
Office Manager and Accountant.....J. Winfield

SECRETARIES OF DIVISIONS

Maritime ..... H. R. Thompson, Box 93, Amherst, N.S.
Quebec, W. P. Hughes, 113 Board of Trade Bldg., Montreal
Ontario H. Macdonald, 1404 Bk. of Hamilton Bldg., Toronto
Prairie, G. E. Carpenter, 503 Northern Crown Bank Bldg., Winnipeg, Man.
Pacific, H. Dalton, 705 Board of Trade Bldg., Vancouver, B.C.

CONTENTS OF THIS ISSUE

Editorial Comment 47
The Country's Need—A Cause of Industrial Unrest—The Victory Loan Campaign.

The National Industrial Conference 50
A survey of the results achieved, together with an account of the events leading up to the gathering, and a record of the resolutions presented.

News and Views of the Association 57
Meetings in the Maritime Provinces—Quebec Division to be organized —Progress on the Trade Index—Toronto Branch Holds Dinner—Work of the Trade Section Department.

Justification of Made-in-Canada Movement.....T. P. Howard 63
Essential that Canada's revenues should be conserved and the most made out of her productive possibilities and potentialities.

Export Trade Opportunities in the Far East.....Capt. Robert Dollar 66
In China, because the country is practically undeveloped, there is a better opportunity than anywhere else for doing business.

New Light on Subject of Technical Education.....Prof. A. Barker 68
Textile manufacturers of Canada are furnished with a scheme of education based on the experience and investigations of an expert.

Some of the Reasons for a Customs Tariff.....J. K. R. Bristol 71
One of the principal advantages of having a tariff is that it makes it possible to negotiate conventional tariffs with other countries.

The B.A. in Business—Is He a Success.....Grant Brown 74
University graduates rally to the support of higher education and claim very real advantage for a man with a Varsity training.

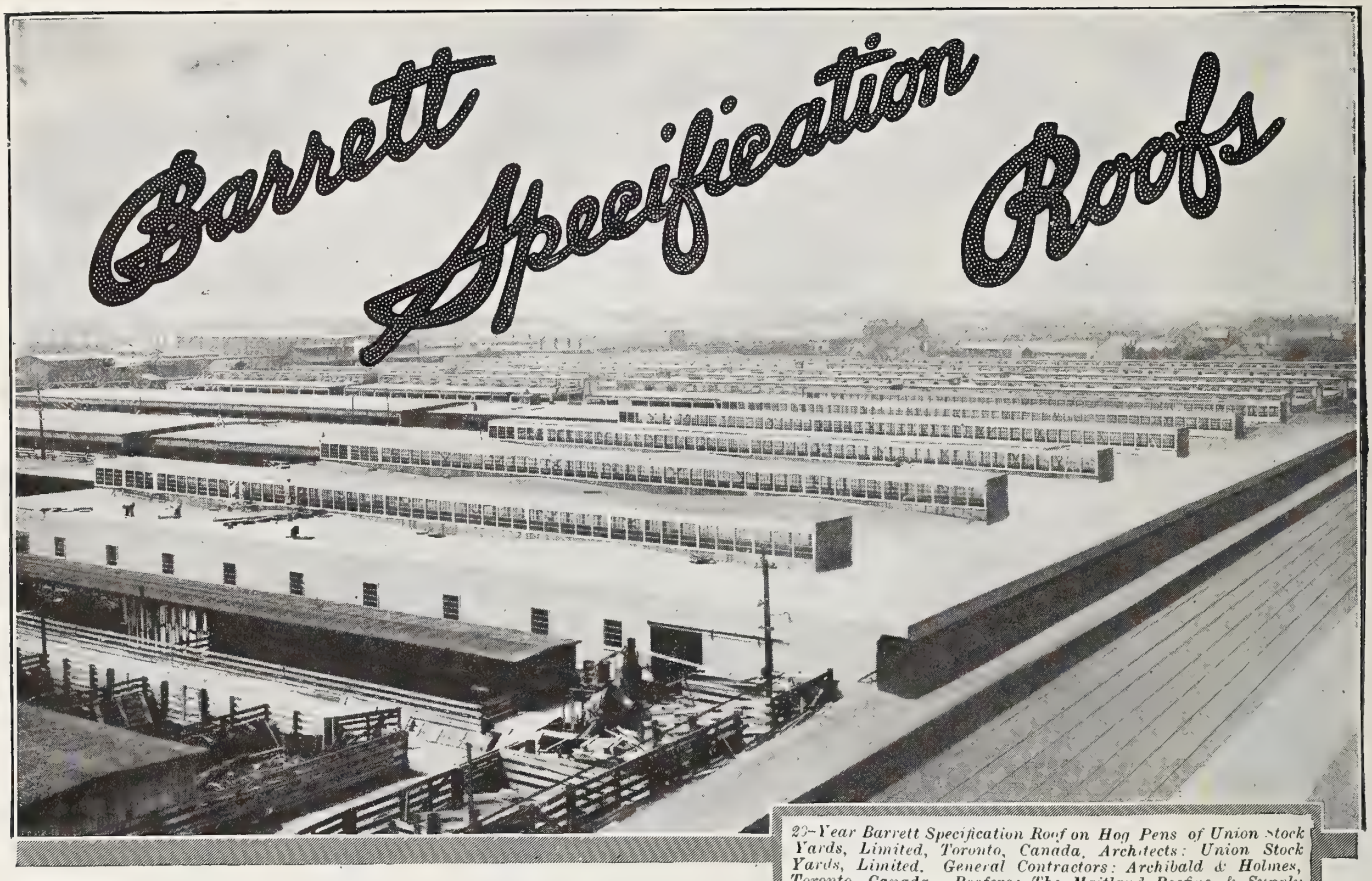
New Customs Rulings 79
Transportation Items 80
Office and Finance 87
Good Things from Other Magazines 97
Among the Industries 140
Recent Trade Enquiries 146

SUBSCRIPTION

Two Dollars per Year Single Copies 20 cents
Advertising Rates made known on application

OFFICES

1404 BANK OF HAMILTON BUILDING
TORONTO



20-Year Barrett Specification Roof on Hog Pens of Union Stock Yards, Limited, Toronto, Canada. Architects: Union Stock Yards, Limited. General Contractors: Archibald & Holmes, Toronto, Canada. Roofers: The Maitland Roofing & Supply Company, McDermid Bros. Successors, Toronto, Canada.

100,000 Square Feet of Barrett Specification Roofs

The above photograph shows the mammoth new Hog Pens of the Union Stock Yards, Ltd., Toronto, in process of construction.

This is a roofing job of more than one hundred thousand square feet, covering one continuous building, extending back beyond the sixth monitor in the picture.

Naturally, in deciding what type of roof to adopt for this enormous plant, the question of cost had to be given careful consideration.

It is significant, therefore, that a Barrett Specification Roof should have been decided on.

It means that the Union Stock Yards architects fully realize what so many architects and builders have come to appreciate—that it *pays* to buy the *best* roof because, while the original cost may be a little higher, *the cost per year of service is lower than for any other type.*

This plant has a roof that will stand up year after year under the rigorous Canadian climate; one that takes the base rate of insurance and that is guaranteed for 20 years.

Guaranteed for 20 Years

So sure are we of the service Barrett Specification Roofs will give *under the most severe conditions*, that we are prepared to *guarantee them for 20 years,* in all towns of 25,000 or over, and in smaller places where our Inspection Service is available provided they are 50 squares or more in area. The guaranty costs you nothing. We merely require that our Specification dated May 1, 1916, shall be strictly followed and that the roofing contractor be approved by us. The guaranty is a Surety Bond issued by a well-known fidelity and guaranty company.

A copy of The Barrett 20-Year Specification, with roofing diagrams, sent free on request.

The Barrett Company LIMITED

MONTREAL TORONTO WINNIPEG VANCOUVER
ST. JOHN, N.B. HALIFAX, N.S. SYDNEY, N.S.

INDUSTRIAL CANADA

ISSUED BY

The CANADIAN MANUFACTURERS ASSOCIATION.

INCORPORATED.

Vol. XX. TORONTO, OCTOBER, 1919 No. 6

Editorial Comment

The Country's Need

AT the present time grave economic problems threaten to disturb the equanimity of civilized society and even to endanger its existence. Strikes and riots, in many countries, show how widespread is this vague unrest; and, by extending from the industrial to the political field, these economic disturbances are shaking the entire fabric of civilized society. This discontent is not confined either to politics or industry. Many groups of society have prepared their personal lists of grievances, have organized, and appear determined to secure demands, arising out of these alleged grievances, without showing any particular consideration for other classes, or the welfare of their community as a whole.

This unrest which is sweeping over the world is no doubt due to natural as well as artificial causes, and one of these causes is the reaction from the nervous strain and severe discipline to which most civilized peoples have been subjected during the war.

A great political upheaval is almost invariably followed by industrial disturbances, for obvious reasons, and it is therefore not surprising that the greatest war in history should bring in its train the most serious industrial unrest. It is the heaving of the sea after the storm. In our time this natural phenomenon has not only produced industrial trouble, but, by its very magnitude and intensity, appears to be reaching out, through industrial channels, to influence the political and social functions of the state.

The times are abnormal, the minds of men are abnormal, but the present conditions will not be the conditions that will obtain in ordinary times, which, we hope, will soon return.

There are some who insist now, as some have always insisted, that the present constitution of society is all wrong, that the industrial organization of the modern world is wrong, and that it must be completely transformed according to certain theories which they will demonstrate by force if necessary; but the majority are optimistic enough to believe that during the centuries when our present form of society, including our industrial system, was evolving, the world has moved steadily, though slowly, forward.

The British Empire, for example, which particularly represents the Anglo-Saxon portion of civilization, has extended British law and British ideals over one quarter of the earth's surface, has attained and kept command of the seas, and has been the backbone and mainstay of the allied forces in the Great War. Consequently, is it not reasonable to assume that the industrial organization which has been part of that system of society must have some real merits, and must have been founded on principles of truth?

When we turn to Canada, and survey our own history, and examine the part which Canadian industry has played both in peace and war, can we not also feel some assurance that our industrial system has been and is based on sure foundations?

There are at present about 700,000 people employed in Canadian factories. With their dependents, they number about 2,000,000. Thus the factories of Canada provide a living for 2,000,000 people, or a quarter of the total population.

This is a concrete and permanent result which those who talk lightly of revolutionizing our industrial system, might well keep in mind; and, conversely, if this industrial system is broken down, 2,000,000 Canadians will be directly affected and other millions will indirectly suffer.

Certain demands are being made by the representatives of the wage-earners, through the employers to the public. It is only right and fair that these demands should receive a careful and sympathetic hearing. Employers do not contend that the industrial system cannot be improved. They see considerable room for improvement. But the people of Canada must consider not only what is desirable but also what is possible. Those engaged in industry, both employers and employees, constitute only one section of the population and no section can long enforce its will upon the majority. The 700,000 people, including employers and employees, engaged in industry, constitute only about 9 per cent. of the population of Canada; with their dependents they form about 25 per cent. Organized labour includes about 3 per cent. of the population; with their dependents, about 10 per cent. All wage-earners in urban communities and their dependents, include considerably less than half of the population. Consequently, we must remember that those engaged in industry are a minority of the people of Canada, and that the people of

Canada will quickly remind us of this fact if we attempt to attain our own ends without considering the national welfare.

Let us, therefore, regard industrial matters from the national point of view. We strongly believe that industrial employees and all other wage-earners should have as short hours, as high wages and as many privileges as the rights of all other citizens and the competition of other nations permit them to enjoy.

There is no doubt that the necessity of increasing our national production is the most important question now before this country. That it has become a critical problem in the United Kingdom is shown by the following extracts from recent speeches by British Ministers:

David Lloyd George, Prime Minister of Great Britain, in the House of Commons, August 7th, 1919,—

"The situation is indeed grave, but not beyond the compass of its resources if the nation will pull itself together. All that is needed is that everybody throughout the land put forth their best exertions as they did during the war, and we shall emerge triumphantly."

Hon. J. Austen Chamberlain, Chancellor of the Exchequer, Great Britain, House of Commons, London, August 7th, 1919,—

"If we can't increase production, we shall go straight to national bankruptcy. Neither increased production nor reduced expenditure alone will be sufficient. We have got to do both if we are to pull through and turn the corner."

Sir Robert Horne, Minister of Labour for Great Britain in July, 1919,—

"Any man who is unprepared to put forth an effort even greater than that he made during the war mocks the dead he professes to glorify. They died to preserve their country. If men are unwilling to exert all their power in peaceful production and honest toil, the country will be ruined as irretrievable as if the Hun had invaded it and spread his devastating hand over it."

This year the Government's budget calls for about $450,000,000, or about $150,000,000 more than our revenue. Our total gross debt is $1,863,000,000. How can we bear our increased national burdens unless we increase our national production, consume the minimum, and sell as much as possible? Yet, manufacturers have been forced to refuse foreign contracts running into an aggregate of millions, because they dared not tender lest threatened strikes between closing and delivery should turn their estimated profits into heavy losses. Other countries are crying out for our goods. We never had such an opportunity to sell abroad. Is it not of vital importance that we be guaranteed such stability in economic conditions as will enable us to take advantage of these opportunities?

All must realize that the fundamental principles of economics govern the conditions under which men work, and under which the business of the country is conducted. Legislation has its function, but legislation which attempts to limit or pervert great natural laws will defeat its own ends and injure those whom it designed to benefit.

A Cause of Industrial Unrest

IS it possible that a portion, at least, of the industrial unrest prevalent at the present time is chargeable to the advertising being put out so prolifically in the magazines by the correspondence schools? At least, one Canadian manufacturer is of this opinion and he advances a quite reasonable argument in support of his theory.

"Almost without exception," he writes, " these correspondence schools seemingly offer wonderful sure things to those who subscribe for their courses and usually lead off in startling head lines. Many of these advertisements are appealing to men in the shops to get out of their present positions into ones of greater magnitude, pleading with them not to be satisfied with anything less than the presidency or treasurership or managership of a company and pointing out that other men no better fitted are now making $10,000 a year, where formerly one-tenth of it was their limit, etc.

"Some of the illustrations are designed to make an increased discontent on the part of the one appealed to; in fact on one or two occasions the appeal was pictured in such a way that it was almost Bolshevism. In looking for the cause of continued unrest, I believe that this is one of the contributing factors. It is perfectly natural for a man to want to do better than he is doing or to get a good deal more than he is getting and under seemingly easier conditions, but the fact of the matter is that many a good mechanic is disconcerted and soured on his good job with no possibility, by reason of his particular incapacity, of ever getting into a $10,000 class so alluringly promised.

"I venture to say that not one in 500 of those who subscribe to the courses, make the success of it that the advertisements claim in generality, and what otherwise would prove to be a force of good, interested men, on the factory side of the business, are turned into more or less disgruntled, easily-inflamed, discouraged floaters, whose failure to attain the position pictured to them, makes them a liability of first magnitude. These same men appealed to to improve themselves in their own particular lines, to study ways and means of increasing production and of working in with their various companies along that line, with the probability of their reward for so using their brain, naturally adaptable to that line of thinking, would help solve the difficulty of the present hour in securing thoughtful co-operation and genuine results in the increasing demand for greater production."

With the general idea of the correspondence school there can be no just quarrel. These schools have undoubtedly done real service in bringing the opportunity to study and better themselves mentally to thousands of people who would otherwise never have enjoyed that opportunity. Any incentive to improve one's condition mentally and socially must be good and the agency that gives the incentive merits approbation. It is to be feared, however, that several of these schools, in an effort to get pupils, have gone too far in the direction of using exaggerated bait



The National Industrial Conference in Session

View of the Senate Chamber, in which the Conference was held, taken from the rear of the employers' side of the House. The chairman, Hon. Gideon Robertson; Hon. N. W. Rowell, and several well-known captains of industry may be seen in the gathering

in their advertisements. There are limitations to the capacity of all of us and these limitations should be recognized. To lure the artisan from his bench with the promise of immensely larger returns in the field say of salesmanship, if that artisan has no real capacity for salesmanship, is obviously wrong and cannot be condoned.

The very plan of operation of correspondence schools makes it difficult to deal with this problem, as there is no personal contact between teacher and pupil. But if harm is being done through the creation of a number of discontented and disgruntled floaters, surely some remedy should be sought. Would it not be possible for the schools to pay more attention to technical training, with a view to holding men in industry, instead of enticing them away into other over-crowded fields of effort? We need production and, as contributing to it, greater efficiency. A splendid patriotic work could be done in promoting that end and no criticism could be made of any advertisements which sought to make the artisan a better workman.

The Victory Loan Campaign

IN self interest, if for no broader reason, the manufacturers of Canada should put their shoulders vigorously to the task of making the approaching Victory Loan Campaign the success it must be if the country is to carry on. We have no longer the incentive of the war-appeal to help us secure the necessary funds. That is over and many people, having this motive withdrawn, will feel that there is no longer any special call on their patriotism. This attitude must be overcome and it will be the part of the leaders of industry, who realize the issues at stake, to see that those in their employ are given a proper conception of the duty that lies before every citizen.

However wide may be the differences of opinion as to the financial policy of the Dominion, there can be no escaping the necessity for the immediate borrowing of a very large sum of money. No other course is open to the Government and this might as well be admitted at the outset. There is a large floating indebtedness which is being increased daily; the costs of demobilization and rehabilitation are still immense and there is only one way of maintaining the volume of our export trade and that is by the provision of credits, which will enable foreign countries to continue their purchases of Canadian goods. The whole situation reacts on the factory, and, if we are to provide profitable employment for our population throughout the winter, it is essential that the Government should be given the means of carrying out its obligations.

From the experience of previous loans, employers must realize that it is a good thing to have the worker of the country participate in these government flotations. In these days of unrest, the stabilizing influence latent in the possession of Dominion Government bonds, is valuable. Subscriptions encourage thrift and thrift is a laudable virtue at all times and particularly in the present abnormal period. Possession suggests responsibility and where there is responsibility there need be little fear of revolution. From every angle there is benefit attaching to participation in government flotations and we believe that the members of the Canadian Manufacturers' Association will not be behind hand, both as regards personal and company subscriptions, and advice and encouragement given to their employees in connection with the loan.

The National Industrial Conference

A Survey of the Results Achieved by this Notable Gathering, together with an Account of the Events Leading Up to it, and a Record of the Resolutions Submitted on the Various Items of the Agenda

THE National Industrial Conference assembled in Ottawa from September 15th to September 20th during a period of peculiar significance in Canadian history. For the first time it was considered expedient to call together representatives of industry for the purpose of discussing industry and its relations, not only to its own constituent elements, but also to the nation. The public was represented by a third group, which, though it was denied the right to vote, had the right to speak on any subject on the agenda. The agenda was compiled from the recommendations in the report of the Royal Commission on Industrial Relations which toured Canada last spring and took evidence in twenty-eight industrial centres.

Throughout the conference the courtesies of debate were well observed, and the questions at issue were discussed in a constructive spirit. The presence of the third group reminded both employers and employees that industrial questions must be considered from the national rather than from the partisan point of view.

There was a gratifying unanimity reached on certain subjects of the agenda. The question of unifying and coordinating the existing labor laws of the Dominion Parliament and of the provincial legislatures, caused little difference of opinion, except as to the matter of procedure, as it was felt that it would be to the advantage of all parties to have not only labor laws but all laws as uniform as local conditions would permit.

In regard to the establishment of Joint Plant and Industrial Councils, the employers agreed so far as the individual plant is concerned, but they objected to the establishment of a Government Bureau to promote the development of such councils on the ground that a standardized government scheme would not be suitable for all conditions. Compromise was reached by the employees consenting to the limitation of the Government Bureau's activities to the collection and furnishing of information upon request. A compromise was reached in regard to minimum wage laws. The employees demanded minimum wage law for all classes of labor; the employers consider the advisability of establishing, after investigation, minimum wage laws for women and children as local conditions required, but firmly opposed the establishment of any minimum wage law for adult male labor. An agreement was reached on this basis.

It was unanimously decided to recommend the appointment of Boards of Enquiry into the subjects of state insurance against unemployment, sickness, invalidity, and old age. It was also unanimously agreed to ask the government of each province to establish compulsory education for full time at least up to and including the fourteenth year, and for part time in cities and towns for the two ensuing years. It was also recommended that in all provinces, education should be made free.

The Royal Commission's views on freedom of speech and freedom of the press were endorsed, but it was recognized that no person has a right to do anything that is liable to incite people to commit unlawful acts.

A joint resolution was also adopted asking federal, provincial, and municipal governments to provide for immediate and continuous survey of available and prospective employment, and for adequate employment machinery to direct unemployed workers to available employment.

Employers and employees agreed to disagree on three points. The first was the subject of the hours of labor. The employees' delegates asked that legislation be introduced establishing the 44-hour week throughout Canada. The employers took the ground that the hours of labor cannot be made a subject for legislation, except where it can be shown, after investigation, that the health of the worker in the industry under discussion is injured by too long application. The employers showed that the demand for a 44-hour week is only a camouflaged demand for higher wages, because it would be necessary, if the 44-hour week were established, to increase wages greatly by the payment of time and a quarter or time and a half overtime rates. They contended that the hours of labor must be governed by economic conditions, such as the necessity for production and the competition of other countries. They pointed out that the regulation of hours of labor by law immediately transfers the whole subject from the economic to the political field, to which it does not properly belong.

The second point on which there was disagreement was the recognition of unions and their demand to bargain collectively. The employers admitted the right of the

HANSARD REPORTS SUPPLIED

Arrangements have been made by which every member of the Canadian Manufacturers Association will be furnished with a complete verbatim report of all proceedings and discussions at the National Industrial Conference. These were reported in Hansard form by the stenographic staff of the Senate, and are now available in paper bound copies. All members are urged to make a careful study of these reports.

employees to join any lawful organization, but they contended that employers should not be required to recognize unions or to establish "closed shops." They insisted on the right, when so desired, to maintain their plants as "open shops," by which they mean that no employer should discriminate against any employee because of the latter's membership or non-membership in any organization, and no employee should interfere with any other employee because of the latter's membership or non-membership in any organization. In regard to collective bargaining, employers contended that they should not be required to negotiate, except directly, with their own employees, or groups of their own employees.

The third point of disagreement rose in connection with the recommendation that employees of the Government should be given the right to appeal to some independent tribunal for settlement of their wage and other grievances against the Government. The employers took the ground that the subject was one for the Government itself to deal with and was not within the jurisdiction of the conference.

The conference no doubt had great educational value. The resolutions adopted or recorded and the information and arguments produced in support of them become part of the permanent records of the Government, and will be consulted when legislation is proposed.

The employers conceded what they felt was required, not by labor alone, but by the national interests, but on certain points, which they considered fundamental, they took a firm stand, advanced sound arguments in support of their views, appealed to the sound judgment of the country and maintained their position fearlessly.



Hon. Gideon Robertson

Canada's Minister of Labor, who was largely responsible for the holding of the Conference and who presided most acceptably over its deliberations

Origin of the Conference

The National Industrial Conference originated from a resolution which was passed on March 19th, last, by the Labor Sub-Committee of the Reconstruction and Development Committee appointed by the House of Commons. The resolution follows:—

"The Labor Committee has been impressed by the necessity of some policy being formulated which will bring about the adoption of co-operative relations between employers and employees in the various lines of industry, as the best means of establishing a satisfactory relationship in industry throughout Canada. The Labor Committee realizes the different conditions existing in various industries, but nevertheless feels that there are certain basic principles which apply to all. The Labor Committee has itself given earnest consideration to the efforts which are being made in this and other countries for the solution of the problem of industrial relationships, and, recognizing the complexity and importance of this problem, recommends that a Royal Commission be appointed immediately to report to the Government on the following matters, namely:

"I. To consider and make suggestons for securing a permanent improvement in the relations between employers and employees.

"2. To recommend means for ensuring that industrial conditions affecting relations between employers and employees shall be reviewed from time to time by those concerned with a view to improving conditions in the future.

"For the above purposes the Commission shall:—

"1. Make a survey and classification of existing Canadian industries.

"2. Obtain information as to the character and extent of organization already existing among bodies of employers and employees respectively.

"3. Investigate available data as to the progress made by established joint industrial councils in Canada, Great Britain and the United States."

Suggestion Approved by Privy Council

The Committee of the Privy Council on April 4th, last, concurred in the foregoing recommendations and appointed the following Commission, which was called "The Royal Commission on Industrial Relations."

The Hon. Chief Justice Mathers, of Manitoba, Chairman.

The Hon. Smeaton White, a member of the Senate, and Managing Director, *Montreal Gazette* Publishing Co., Montreal.

Charles Harrison,, M.P., railroad conductor, North Bay, Ont., as representatives of the public.

Mr. Carl Riordan, President, Riordan Pulp and Paper Co., Montreal, P.Q.

Mr. F. Pauze, lumberman, Montreal, P.Q., as representatives of the employers.

Mr. T. Moore, Ottawa, President of the Trades and Labor Congress of Canada.

Mr. J. W. Bruce, of Toronto, member of the Labor Appeal Board, as representative of the employees. Mr. Thomas Bengough, of Toronto, who served as Secretary of the Technical Education Commission, Secretary.

This Commission opened its inquiry at Victoria, B.C., on April 26th, and completed its tour in Ottawa on June 13th, last. Between these dates the Commission held 70 sessions in 28 industrial centres extending from Victoria, B.C., to Sydney, N.S. During the sittings the Commission heard 486 witnesses. The sittings of the Commission were advertised in advance, and any one who cared to do so was permitted to give evidence. The following majority of the Commission reported to the Government on June 28th: Messrs. T. G.

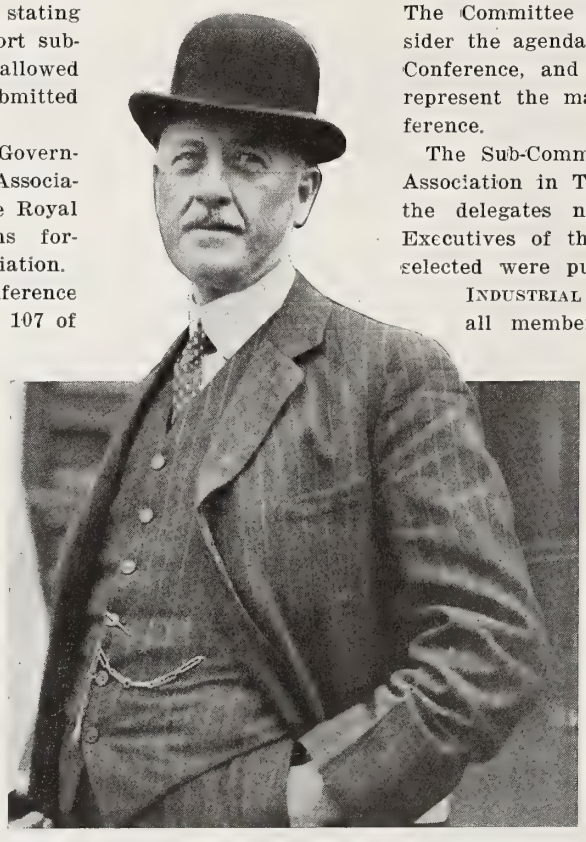
Mathers, Chairman; Carl Riordan, Charles R. Harrison, Tom Moore, John W. Bruce and Thomas Bengough, Secretary.

A minority of the Commissioners, consisting of Senator Smeaton White and Mr. Frank Pauze, dissented from the views of the majority and submitted a separate report to the Government on June 25th. A supplementary report, signed by Mr. Carl Riordan, stating that he had signed the majority report subject to the privileges of his being allowed to make comments thereon, was submitted to the Government on June 29th.

By special arrangement with the Government, the Canadian Manufacturers' Association had a copy of the reports of the Royal Commission on Industrial Relations forwarded to each member of the Association.

The suggestion that a National Conference be called was contained in clause No. 107 of the majority report, which reads as follows:

"If it is finally decided that the enactment of any legislation necessary to give effect to our recommendations is not within the competence of the Parliament of Canada, we suggest that in order, if possible, to secure concerted action on the part of the different Provincial Legislatures, a conference should be held in the near future in the City of Ottawa. To this Conference we suggest that the Premiers, or other members of the Governments of each Province, together with representative employers, be invited for the purpose of considering the whole question, and, if possible, arriving at a unanimous decision. We believe it is in the interest of harmony that concerted action along this line should be taken, and we know of no better means of bringing about unanimity. At such conference the question of unifying and co-ordinating the existing legislation bearing on the relations between employer and employees, now in force in the several Provinces and in the Dominion, might be carefully considered and reviewed."



J. R. Shaw

Well-known Woodstock Manufacturer who acted as leader of the employers throughout the Conference

Calling the Conference

Hon. G. D. Robertson, Minister of Labor, in a letter dated Ottawa, July 21st, 1919, notified the Canadian Manufacturers' Association that the Dominion Government had approved of the proposal contained in the report of the Royal Commission on Industrial Relations to hold a conference of Dominion and Provincial Ministers and of representative employers and labor men, for the purpose of discussing the recommendations contained in the Commission's report. The date set for the conference was September 11th, which was subsequently changed to September 15th.

The Canadian Manufacturers' Association was allotted 25 delegates, as follows:—

	Delegates.
Iron and Steel Industry	2
Packing Industry	2
Flour Mill Industry	2
Shipbuilding Industry	2
Pulp and Paper Industry	2
General Manufacturing	15
Total	25

This allotment was later increased to 36.

It had been the policy of the Association in the past not to deal with labor matters, but owing to the industrial unrest and more particularly to the appointment of the Royal Commission on Industrial Relations, the annual meeting, held in Toronto in June, last, decided to appoint an Industrial Relations Committee to deal with labor questions.

A meeting of the Industrial Relations Committee was called at the head office of the Association on July 30th. The Committee appointed a sub-committee to consider the agenda of the proposed National Industrial Conference, and to select the delegates who would represent the manufacturing industries at that Conference.

The Sub-Committee met at the head office of the Association in Toronto, on August 6th, and selected the delegates nominated by the various Division Executives of the Association. The names of those selected were published in the September issue of INDUSTRIAL CANADA. A circular was issued to all members of the Canadian Manufacturers' Association outlining the objects of the National Industrial Conference, containing the agenda of the Conference, and asking for the opinion of members as to the attitude which should be taken by the Association's delegates. Instructions were issued to the staff to secure all possible information on the subjects mentioned in the agenda. With the assistance of the head office staff and legal counsel who had been specially retained, a large amount of valuable information was obtained for the information of our delegates.

The following committee of seven, appointed to advise in respect to arrangements on the agenda for the Conference, met in Ottawa, on September 11th: Chairman, C. A. Magrath; Representatives of Employers: Messrs. C. H. Carlisle, Goodyear Tire & Rubber Co. of Canada, Ltd., Toronto; F. P. Jones, Canada Cement Co., Ltd., Montreal; E. G. Henderson, Canadian Salt Co., Ltd., Windsor, Ont. For the employees: Messrs. R. A. Rigg, Organizer of the Trades and Labor Congress of Canada, Winnipeg; Gus Francq, of the International Typographical Union, Montreal; W R. Rollo, Broom and Whisk Makers' Union, Hamilton.

Nine Committees Appointed

It was recommended that nine committees should be appointed by the Conference to bring in resolutions on the following subjects:

1. Industrial disputes legislation and other labor laws.
2. Hours of labor.
3. Minimum wages legislation.
4. Employees' right to organize, the recognition of labor unions and the employees' right to collective bargaining.
5. The proposed establishment of joint industrial councils.
6. State insurance against unemployment, sickness, invalidity and old age.
7. Proportional representation.
8. Other features of the report of the Royal Commission on Industrial Relations.
9. Consideration of any other proposals which may be introduced bearing on the relations of employers and employees.

Resolutions

The following resolutions were submitted to the Conference in the order mentioned:

(1) Industrial Labor Laws

"Resolved: That the advantage of uniformity in the laws relating to the welfare of those engaged in industrial work in the several provinces of the Dominion of Canada be brought to the attention of the Government of Canada and of the Governments of the several provinces respectively; and, that this National Industrial Conference suggests the following as a means towards the end desired, namely:

"The appointment of a board composed as follows:

"(1) As respects the Dominion:
- (*a*) A representative of the Government.
- (*b*) A representative of the employers.
- (*c*) A representative of the employees.

"(2) As respects each of the Provinces:
- (*a*) A representative of the Government.
- (*b*) A representative of the employers.
- (*c*) A representative of the employees.

"And that the Dominion Government be requested to ask the Government of each of the Provinces to select or have selected representatives in respect of the Provinces as above set forth."

Adopted unanimously.

(2) Proportional Representations

"Believing that there are defects in the system of Electoral Representation in Canada, which defects are stated by the Royal Commission on Industrial Relations to be a contributory cause of social and political unrest, this Conference welcomes the declaration of the Prime Minister on behalf of the Government, that a Speaker's Conference will be called to investigate the merits of the Proportional System, and urges that such action be taken without delay."

Adopted unanimously.

(3) Joint Industrial Councils

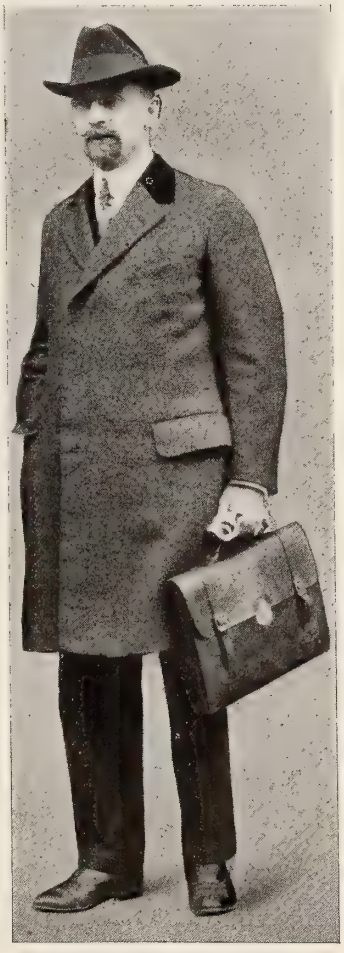
"Your Committee is of the opinion that there is urgent necessity for greater co-operation between employer and employee. We believe that this co-operation can be furthered by the establishment of Joint Industrial Councils. Your Committee does not believe that it is wise or expedient to recommend any set plan for such Councils.

"We therefore recommend that a Bureau should be established by the Department of Labor of the Federal Government to gather data and furnish information whenever requested by employers or employees or organizations of employers or employees, and that whenever it is desired to voluntarily establish such councils the fullest assistance should be given by the Bureau."

Adopted unanimously.

(4) Unemployment, Sickness and Old Age Insurance

"This Committee unanimously endorses the recommendations of the Royal Commission on Industrial Relations that a Board or Boards be appointed to enquire into the Subjects of State Insurance against Unemployment, Sickness, Invalidity and Old Age.



Melville P. White

Toronto Manufacturer, who figured prominently in the proceedings of the Conference

"For the effective carrying out of the above this Committee recommends:

"1st. That such Board or Boards shall be representative of the interests participating in this Conference, viz., the Government, the public, the employer and the employee, and shall include a representative of the women of Canada.

"2nd. That in order to collect necessary data, the Government shall forthwith attach to the proper branches of the labor or other departments concerned experienced investigators, who shall do the necessary research work and furnish to the Board at the earliest opportunity the results of their investigations.

"3rd. That the Government shall set a time limit for the receipt of the report and recommendations as to the advisability of enacting legislation.

"4th. While this Committee has been appointed to consider only the questions of State Insurance against Unemployment, Sickness, Invalidity and Old Age, it respectfully recommends that the subject of 'Widows' Pensions' be added."

Adopted unanimously.

(5) Minimum Wage Laws

"Whereas it is considered expedient that minimum rates of wage should be fixed throughout Canada for women and children, whether employed at a time rate or according to any other method of remuneration;

"Whereas Minimum Wage Laws for women and children have been enacted in five, and are now in operation in four, of the Provinces;

"Therefore, be it resolved, that this Industrial Conference recommend to the Governments of all those Provinces which have not adopted Minimum Wage Laws for women and children, the speedy investigation of the necessity for such laws, and, if so found, the enactment of such legislation.

"It is further recommended that the various Provinces throughout the Dominion adopt a uniform law and method of application, but that in all cases the minimum of wages for women and children is to be determined from time to time, due regard being given to the local living conditions.

"It is the opinion of this Conference that the Dominion Government should appoint a Royal Commission, composed equally of representatives of labor, employers, and the public, to investigate wages to unskilled workers, and issue a report.

"Representation has been made to the Committee that the remuneration paid female school teachers in one of the larger Provinces of the Dominion is so low as to discourage the employment of the talent necessary to the proper education of its citizens. Your Committee recommends that the various Provincial Governments be asked to investigate such conditions, in the respective Provinces, to the end that the children of all Provinces of the Dominion have equal educational opportunities."

Adopted unanimously.

(6) Free Compulsory Education

"That this Conference endorses the recommendation of the Royal Commission on Industrial Relations as to the necessity of the extension of equal opportunities in education; and, in view of bringing about this reform;

"That the Government of each Province in Canada be asked to establish compulsory



Tom Moore

President of the Trades and Labor Congress of Canada and leader of the employees' side at the big Conference



C. H. Carlisle

As chairman of the C.M.A.'s Industrial Rela ' tions Committee, Mr. Carlisle had much to do with working up the employers' side of the argument

education, for full time at least, up to and including the fourteenth year, and for part time in cities and towns for the two ensuing years; and

"That, in all Provinces, education in all grades should be made free, so that the child of the poorest paid worker be given the opportunity of reaching the highest educational institution."

(7) Freedom of Speech and the Press

"That we unanimously endorse paragraph 70 of the Report of the Royal Commission, as follows:

"(70). The restrictions placed upon the freedom of speech and the liberty of the press, and the denial of the right to read such literature as any portion of the public demanded, was given as one of the principal causes of the present industrial unrest. During the war it was necessary in the interests of the whole country and of the Empire that individual liberty should in many directions be restrained, but we believe that restrictions should not be imposed upon either the freedom of speech or the freedom of the press unless such restrictions are urgently demanded in the interest of the peace of the whole community. We recognize that no person has a right to do anything that is liable to incite the people to commit unlawful acts. A line must be drawn between liberty and license, but care must be taken to avoid creating the impression that the restraints imposed upon the freedom of speech or the liberty of the press, are intended to prevent criticism of legislative or governmental action."

Adopted unanimously.

(8) Employment and Unemployment

"1st. That in the ouinion of this Conference adequate provision, by the public works or otherwise, should be made by the federal, provincial and municipal governments in connection with all interests represented at this Conference, to avert any serious unemployment crisis which might occur during the ensuing eight months.

"2nd. That the various interests represented at this Conference adhere strictly to the employment policy agreed upon by the Provincial Governments, which aims at the centralization of labor supply and demand in one agency.

"3rd. That provision be made for immediate and continuous survey of available and prospective employment, and for adequate employment machinery to direct unemployed workers to employment available."

Adopted unanimously.

(9) Insufficient and Poor Housing

"That this Conference commends the action of the Dominion and Provincial Governments in their united efforts to improve housing conditions and to provide facilities for the proper and satisfactory housing of our people, and recommends increased co-operation of, and investigation by, the Dominion and Provincial Governments to find a satisfactory solution of the problem."

Adopted unanimously.

Where They Disagreed

On three subjects of the agenda no agreement was reached, and the resolutions submitted by the various parties were simply recorded on the proceedings of the agenda.

Hours of Labor

The first subject on which disagreement was reported was the hours of labor.

(*a*) The following resolution was returned by the delegates of employers:

"Resolved that appropriate Government Commissions, composed of an equal representation of employers and employees

of the various industrial, producing and distributing industries, should be appointed to undertake investigations as to the adaptability of the hours of labor principles of the Peace Treaty to the different industries of the country, and to report as early as possible."

(*b*) The following resolution was returned by the delegates of employees:

"That we agree with the recommendations and findings of the Royal Commission on Industrial Relations, and urge the adoption of an eight-hour day by-law throughout the Dominion, with due regard and recognition of the Saturday half-holiday where same prevails, and, if possible, extension.

"In industries subjected to seasonal and climatic conditions, such as farming, fishing and logging, if it can be established by investigation that the operation of such a law is impracticable, then exemption shall be granted such industries from the operation of the law."

(*c*) The following resolution was returned by delegates representing the third party:

"We approve of the principle regarding employment and hours of labor set forth in the Treaty of Peace and in paragraphs 50 to 53, inclusive, of the report of the Royal Commission, and would recommend that the governments of Canada enact legislation providing for such in all industries where it is now established, by agreement, at the earliest opportunity, and after due investigation by a commission, composed of representatives of employers and employees representing the various industries, legislation be enacted by the governments of Canada providing for the same to be extended in all industries where it can be applied, having due regard to the curtailment of production and distribution."



Dr. D. Strachan

Who took a prominent part in presenting the employers' case to the Conference. Dr. Strachan is in charge of welfare work in the Imperial Oil Company's organization

The second subject of disagreement was the recommendation of the Royal Commission on Industrial Relations that the findings of the Commission be put into effect on all work controlled by the Government when the principles of democratic management can be applied.

(*a*) The following resolution was returned by the delegates representing the employers:

"The undersigned members of your Committee beg leave to report that the matter referred to them does not, in their judgment, come within their province, but that it is entirely a question between the governments and their employees concerned."

(*b*) The following resolution was returned by the delegates representing the employees:

"We concur in the recommendation of the Royal Commission on Industrial Relations that the findings of the Commission should be put into effect in all works controlled by all government bodies where the principle of democratic management can be applied.

"We further recommend that employees of all government bodies should be entitled to the right of appeal under the Industrial Disputes Act, so long as that Act remains upon the statute book of Canada.

"We further recommend that the wages and working conditions of employees of the governments should not be less favorable than those which now exist for similar workers in the employment of private individuals or corporations."

(*c*) The following resolution was returned by the representatives of the third group:

"The representatives of the Third Group on this Committee believe that, in so far as the findings of this Conference approve and such findings are to the benefit of the public weal, the suggestions of the Royal Commission should be put into effect in all departments and works controlled by the Government of this country."

The third subject of disagreement occurred in consideration of:

(*a*) Employees' right to organize.
(*b*) Recognition of labor unions.
(*c*) Right of employees to collective bargaining.

(*a*) The following resolution was returned by the representatives of the employers:

"Employers admit the right of employees to join any lawful organization.

"Employers should not be required to recognize unions or to establish 'closed shops.' Employers insist on the right, when so desired, to maintain their plants as 'open shops,' by which they mean that no employer should discriminate against any employee because of the latter's membership or non-membership in any organization, and no employee should interfere with any other employee because of the latter's membership or non-membership in any organization.

"Employers should not be required to negotiate, except directly, with their own employees or groups of their own employees."

(*b*) The following resolution was returned by the delegates representing the employees:

"Your Joint Committee, to whom was referred item No. 4 of the revised agenda, viz.:

"Consideration of—

(*a*) Employees' right to organize;
(*b*) Recognition of labor unions; and
(*c*) The right to collective bargaining;

respectfully submit the following report, with recommendations, for your favorable consideration:

"(1) With a view to effecting and maintaining harmonious relations between employers and employees, this Conference declares the following principles and policies, and urges their adoption by all employers relative to their respective employees:

(*a*) The right of employees to organize;
(*b*) The recognition of labor unions;
(*c*) The right of employees to collective bargaining.

"(2) In these recommendations, without changing the generality of their terms:

"(*a*) 'The right of employees to organize' means the right of employees to organize or form themselves into associations for lawful purposes.

"(*b*) 'The recognition of labor unions' means the right of employees, or their duly accredited representative or representatives, to recognition of their employer or employers, for the purpose of mutually arranging rules and regulations governing wages and working conditions.

"(*c*) 'The right of employees to collective bargaining' means the negotiations of agreements between employers or groups of employers and employees or groups of employees, through the representative or representatives chosen by the respective parties themselves.

"Entering into agreements and bargaining collectively with an association or union of employees does not mean recognition of the "closed shop," unless the agreement so provides.

"(*d*) 'Employer' or 'employers' as used in clauses 1 and 2, means any employer or employers of any industry and of federal, provincial and municipal governments.

"(3) 'That the federal and provincial governments be urged to enact legislation applicable to industries within their respective juridictions, to make it unlawful for any employer who shall discharge or refuse to employ or in any manner discriminate against employees merely by reason of membership in labor unions or for legitimate labor union activities outside of working hours."

(*c*) On this subject the representatives of the third group did not bring in any resolution.

Industrial Development Farmers' Best Friend*

By FINLEY P. MOUNT
President, Advance-Rumely Company

THE introductory portion of Mr. Mount's address was taken up with a discussion of the part played by food production both during the war and in the post-war period. He showed how serious was the food shortage in the war-ridden countries of Europe and how keen would be the demand for grain in Canada and the United States for years to come.)

Here, then, is our problem. These people must be fed, and their country and their power to produce must be restored, not only for humanity's sake, not alone for their own safety, but for our safety as well. Upon whom may the world better rely than on the American and the Canadian farmer? And to meet this demand in the future we would say emphasis should be laid upon the agricultural resources of Canada, for here indeed is the greatest room for expansion in production. Here you have in your prairie provinces three great empires, with possibilities of development so vast the human mind cannot encompass them. You are a great agricultural country now, but will be a greater. Your people will increase, your fields broaden, new homes will spring up, your herds will multiply; your farmers will diversify their crops; your methods of production will improve until your great neighbor on the south may well look to her laurels for agricultural primacy on this continent, and you and we will again take our places in the ranks shoulder to shoulder, to fight in peace as we fought in war, this time against hunger, the most powerful enemy of mankind, the destroyer of peace, the scourge of the world.

Successful Agriculture

And as successful agriculture constitutes the very foundation of a nation's prosperity, your future is well assured, and all the things which go with success and prosperity are secured unto you.

With agricultural development must come industrial development; the one is the concomitant of the other. It was so with us. It has always been so with our race. It must be so with you. You are especially blessed with the requirements for a great industrial development; your cheap fuel, your wealth of minerals and forests, are known and inexhaustible; your great and wonderfully efficient systems of railroad transportation. You in this province are fortunately situated to the market of the Orient. Many of us here, I predict, will see the day when the products of your country and ours will be loaded at the western ports of Lake Superior on ocean vessels bound through an enlarged ship canal for Liverpool and all the markets of the world, and closely competing in point of accomplishment and more economical during the season of its use will be your route through Hudson's Bay to all the seven seas.

Farmer's Best Friend

Your farmer must learn, as ours has long since learned, that industrial development is his best friend, and his best paying investment. As the market at his door increases, so will the value of his products and his farm increase. As new industries are built up in your communities, new opportunities for profit and enjoyment of life are created. Your foreign market for your agricultural products is now good, and it is reasonable to suppose it will be a good market for some time to come, but eventually your reliance must be on your home market. A home market is always a better market, a higher and a surer market, and for this reason, if no other, you should see to it that industrial enterprises are built up in each of your local communities. This should be done by building the things your communities most need, and the materials for which are nearest at hand. Do not start industries merely for the sake of starting industries. I have in mind cases in our own country where this was attempted, where, for instance, a rolling mill was started in a small county seat town, far removed from raw materials, and not especially convenient to markets or shipping. Under this same town a splendid quality of building stone, well known to the community, had lain for centuries undeveloped, though efforts had been made to interest local capital in its development. The community could not see the building stone enterprise, but was obsessed with the rolling mill

(*Continued on page* 78)

* From an address delivered before the recent Alberta Industrial Congress at Calgary.

News and Views of the Association

There will be found each month in this department a record of the various activities of the Canadian Manufacturers Association during the preceding month. The information is supplied to INDUSTRIAL CANADA officially, and all members of the Association are urged to acquire the habit of reading and checking over the contents of the department carefully in order to keep themselves posted on the work of the Association

Maritime Provinces Meetings

A meeting of the Executive Council of the Association was held in the Board of Trade Building, St. John, N.B., on Wednesday, October 1st. On the following day the semi-annual meeting of the Maritime Division took place in the same place. Owing to the fact that so many members of Council had attended the National Industrial Conference at Ottawa during the week of September 15th, the attendance from the west was not as large as it might otherwise have been. However, several members accompanied the president, Mr. T. P. Howard, to St. John, among them being C. Howard Smith, the Howard Smith Paper Mills, Limited, Montreal; F. W. Stewart, Cluett, Peabody & Co., Montreal; Jos. O. Picard, Rock City Tobacco Co., Limited, Quebec; Geo. D. MacKinnon, MacKinnon Steel Co., Ltd., Sherbrooke; H. W. Fleury, J. Fleury's Sons, Aurora; W. H. Shapley, Sterling Actions & Keys, Toronto; H. A. Telfer, Telfer Bros., Limited, Toronto; S. Harris, Harris Litho. Co., Limited, Toronto; Henry Bertram, John Bertram & Son Co., Limited; Geo. H. Douglas, Thornton & Douglas, Limited, Hamilton; M. R. Meldrum, Herbert Morris Crane & Hoist Co., Limited, Niagara Falls.

While a good many members of Council found it impossible to attend, the letters of regret received indicated a cordial approval of the idea of holding a meeting of council in the Maritime Provinces and a desire that the full benefits of Association work should be extended to the members in the Martime Division.

Following the meetings in St. John, a tour of the Provinces was undertaken by the president, Mr. T. P. Howard; the chairman of the Maritime Division, Mr. W. S. Fisher; several members of the executive council; and Messrs. J. E. Walsh, General Manager; J. T. Stirrett, General Secretary; J. K. R. Bristol, Manager of the Tariff Department and H. R. Thompson, Secretary of the Maritime Division, the Cities of Fredericton, Moncton, Halifax, Truro, Amherst, Sydney, Charlottetown and New Glasgow being visited. Meetings with the local members were held at all these points and much good was accomplished in bringing members into touch with the officials of the Association and enlightening them on the services available.

To Organize Quebec Division

A general meeting of all members of the Association within the Province of Quebec has been called by order of the President for Thursday, October 16th next, in the Windsor Hotel, Montreal, commencing at 10 a.m. This action is in accord with the amendment to the Association by-laws passed at the last annual meeting, by which a Quebec Division of the Association was created. Nominations for a divisional chairman, vice-chairman and an executive committee of twelve has been called for, and the election of these officers will take place in the meeting. Mr. J. E. Walsh, the general manager of the Association, will be present to open the business session with an address to the members, explaining the purposes for which the division is formed and outlining the activities which would properly come under its jurisdiction. The afternoon session will be devoted to the study of problems with which manufacturers are wrestling. It is hoped to have present men eminently qualified to introduce these subjects and the discussions should be illuminating.

The day will be completed by an informal dinner at 7 p.m., for which function the committee in charge have been fortunate enough to secure the attendance of Dr. Michael Clark of Red Deer. Dr. Clark will need no introduction, for he is known from coast to coast as one of the most brilliant and entertaining speakers in Canadian public life. Great interest has been evidenced in the announcement that Dr. Clark would speak and a capacity audience is already assured.

Retire from Committee

The terms of office as members of the Executive Committe of Messrs. H. H. Champ, Steel Co. of Canada, Limited and J. R. Shaw, Canada Furniture Manufacturers, Limited, expired in September and their successors were elected at the meeting of the Executive Council at St. John.

Ontario Shoe Manufacturers

The Ontario Shoe Manufacturers Association, which is a section of the Canadian Manufacturers Association, now holds quarterly meetings. October 8th is the date of the current meeting. Mr. G. W. McFarland, of Williams Shoe, Ltd., Brampton, is the chairman of this organization.

The Association is now dealing with such questions as the development of a form of technical training suitable to their business, and a modest but very real effort is being made to provide interesting lectures on underlying principles and practical demonstrations of the right way to perform the important operations in shoemaking. Lengthy reports have also been prepared on the value and desirability of a publicity and advertising campaign for "Made-in-Canada" shoes. A committee is also at work on the preparation of a cost estimating sheet, to enable manufacturers properly to analyse and trace their costs, no matter what line they may produce.

Arrangements are also being made to meet the shoe retailers' organization for the discussion of matters relating to the good of the trade as a whole.

The work of this section calls for so much investigation, correspondence and negotiation that it is being seriously proposed to have a secretary for the organization

who can devote his whole time to the shoe business. It is anticipated that the section will retain, through its secretary, the intimate connection that it has always had with the Canadian Manufacturers Association.

Protecting Association's Crest

As attempts have been made at various times to infringe the special crest of the Association, steps have been taken recently by the Legal Department to secure protection. It may now be stated that the crest is registered as a specific trade mark under the provisions of the Trade Mark and Design Act. Action has also been taken to protect the name "Canadian Trade Index" by registering the title under the terms of the same act.

Spoke on the Tariff

Mr. J. K. R. Bristol, Manager of the Tariff Department, was a guest at a dinner meeting of the Purchasing Agents' Association of Toronto, held at the King Edward Hotel on September 17th. He addressed the Association on the subject,—"The Reason for a Tariff, the Recent Changes in the Tariff and the Future Outlook." As the subject is one of special interest to members of the Association, the address is reproduced in this number of *Industrial Canada*.

Export Publication Received

There has just been received in this office the first number of the "British Standard Exporter." The present volume is devoted to leather, earthenware and hardware, except metal hardware. This is the first of a series dealing with the British industries which are catering to the export trade. The series, when complete, will consist of twenty-five large volumes, each replete with illustrations, descriptions and, in some cases, prices of the different articles listed. Much useful information regarding telegraphic communication is also given, and the series should be of real value to business people interested in getting goods from British sources.

Progress on Trade Index

The compilation work of the new edition of the Canadian Trade Index has been completed and about one-third of the book is now in the printers' hands. In this edition there will be listed approximately 9,500 manufacturers, while about 2,200 new headings have been added. The total number of headings showing articles manufactured is now 8,445. Numerous rearrangements of headings have been made to make the information more readily available to users.

In addition to the usual French translation section, a translation into Spanish of all the headings has been provided. Useful statistics showing the value of imports, exports and production of various kinds of goods have been prepared for insertion, together with the usual lists of consuls, trade commissioners, etc.

Considerable difficulty has been experienced in keeping up to the schedule, as it was found impossible to get as numerous a staff together who were satisfied to do temporary work, and at the same time be trusted to take the necessary care with the wealth of detail involved. In the later stages not only care is necessary, but actual knowledge of the system, symbols and the names of the manufacturers, so in those stages inexperienced help is a hindrance rather than a valuable and time-saving assistance.

We have also been hampered by the extraordinary number of changes in names of firms. Such changes involve the rewriting of the whole part of the book wherever their names appear. The changing back from war to peace conditions and the consequent change and addition to the lines of goods manufactured caused an amount of clerical work that was abnormal. Some difficulty was also experienced in getting returns from those eligible for entry in the book. In each of these cases the firms had to be checked up in rating books, telephone books and other directories, or by correspondence with the firms themselves or with someone in their neighborhood to determine whether they were still in operation or not. All these have now been successfully overcome, and the matter of speedy production now rests with the printer.

It is assured that besides a very extensive Canadian circulation among manufacturers, wholesalers, railways, Government departments and other heavy purchasers, the distribution of the index in British and foreign countries will be large and so placed as to render most effective publicity and sales service to Canadian industry.

Visit to Peat Fuel Plant

Representing the Special Fuel Committee of the Association, Messrs. W. H. Shapley and R. L. McIntyre of Toronto, accompanied a small inspection party, headed by Hon. G. H. Ferguson, to the Ontario Government's experimental peat plant at Alfred, near Ottawa, on September 15. The Association's delegates report that, as far as they could see, after an examination of the work being done, the money already spent in development has been used to good advantage, and that progress is being made. The experimenters appear to have reached the right principle of operation, and it will be mainly a question of solving the problem of transportation. The thanks of the Fuel Committee have been extended to Hon. Mr. Ferguson for the invitation given and courtesies extended to their representatives on the trip.

Toronto Branch Dinner

A dinner and meeting of the Toronto Branch was held in the Board of Trade lunch rooms, Toronto, on the evening of Friday, September 26, for the purpose of hearing and discussing a report on the National Industrial Conference. The chairman, Mr. C. W. Coulter, presided. A comprehensive report dealing with the work of the Conference was presented by Mr. H. Macdonald, secretary of the Branch, after which speeches dealing with various phases of the event were delivered by Mr. J. S. McKinnon, vice-president of the C.M.A.; Mr. Melville White, Dr. Strachan, Mr. S. R. Parsons, Mr. A. Munro Grier, K.C., Mr. J. P. Bell, general manager of the Bank of Hamilton, and others From the remarks of these gentlemen an excellent idea of the proceedings at the Ottawa Conference was derived. Several of the speakers referred with gratification to the part played by the C.M.A. in organizing and handling the employers' side of the argument.

Explained the Sprinkler Campaign

At the September meeting of the Insurance Committee, Mr. Grove Smith, the Dominion Fire Commissioner, gave some interesting information in connection with the sprinkler campaign now being inaugurated by the Dominion Insurance Department in conjunction with the Dominion Fire Prevention Committee. Mr. Smith stated that arrangements had been made by which any factory in Canada could be inspected by an expert sprinkler engineer, sprinkler layouts drawn up and the cost of the installation submitted to the manufacturer, together with a statement of the annual savings in insurance premiums which would be effected. All this would be done free of

charge and without any obligation on the part of the manufacturer. It was confidently expected that very many manufacturers would see the wisdom of installing this system of protection once the profitable nature of the investment was demonstrated to them. The arrangements made assured the lowest possible cost of installing the equipments, without in any way interfering with competition between the various sprinkler companies. The object of the Insurance Department in carrying out this campaign is, of course, the reduction of Canada's fire waste. It is estimated that, if every factory in the Dominion were equipped with automatic sprinklers, the country's annual fire waste would be reduced by at least fifty per cent.

New Members of Committee

At the organization meeting of the Transportation Committee, held on September 9, the following additional members were appointed to the Committee:—

C. E. McGhie	The Welland Vale Mfg. Co., Ltd., St. Catharines, Ont.
W. R. Ingram	Swift Canadian Co., Ltd., Winnipeg, Man.
J. E. McFarlane	Western Canada Flour Mills Co., Ltd., Toronto, Ont.
A. H. Thorpe	Wm. Davies Co., Ltd., Toronto, Ont.
M. F. Gibson	National Fireproofing Co. of Canada, Toronto, Ont.
A. H. Brittain	Maritime Fish Corporation, Montreal, Que.
H. T. Diplock	Steel Company of Canada, Ltd., Montreal, Que.
F. G. Daniels	Dominion Textile Co., Montreal, Que.
L. L. Anthes	Anthes Foundry Co., Toronto, Ont.
Norman Boyd	Gutta Percha & Rubber, Ltd., Toronto, Ont.
Robin Boyle	Provincial Stone Co., Toronto, Ont.
John F. Ellis	Barber-Ellis, Ltd., Toronto, Ont.
S. R. Parsons	British American Oil Co., Toronto, Ont.
W. S. Campbell	Canadian General Electric Co., Peterborough, Ont.
Geo. Henderson	Brandram-Henderson, Ltd., Montreal, Que.
H. R. Silver	H. R. Silver, Ltd., Halifax, N.S.
Angus McLean	Bathurst Lumber Co., Bathurst, N.B.
A. H. Whitman	Robin, Jones & Whitman, Ltd., Halifax, N.S.
T. H. Estabrooks	T. H. Estabrooks Co., Ltd., Halifax, N.S.
B. W. F. Johnson	B.C. Sugar Refining Co., Vancouver, B.C.
J. R. Duncan	Vulcan Iron Works, Vancouver, B.C.
J. E. Hale	Vancouver Milling & Grain Co., Vancouver, B.C.
J. J. Palmer	Clayburn Co., Ltd., Clayburn, B.C.
J. H. McDonald	B.C. Manufacturing Co., Ltd., New Westminster, B.C.
A. S. Capwell	Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
J. H. Baetz	Baetz Bros.' Furniture Co., Kitchener, Ont.
Chas. O. Shaw	Anglo-Canadian Leather Co., Ltd., Huntsville, Ont.
Chas. Waterous, Jr.	The Waterous Engine Works Co., Ltd., Brantford, Ont.
F. A. Nancekivell	The Ford Motor Co. of Canada, Ford, Can.
A. Kinzinger	Kinzinger, Bruce & Co., Ltd., Niagara Falls, Ont.

Trade Sections Department

There has been unusual activity amongst Trade Sections during the summer months. No less than twenty-seven meetings have been held since the beginning of July, in which sixteen different groups participated.

The Trade Sections Department is constantly on the watch for motives of peculiar trade interest which may warrant the calling of groups together, but in this respect members can be of great assistance by supplying the department with information in respect to which collective action may be appropriate. It is desirable that every separate branch of industry should feel that on matters of common interest facilities for getting together are always available, it being the duty of the Trade Sections Department to supply for the asking the necessary secretarial and organizing service.

A classification of Canadian industry has been prepared, dividing manufacturing processes into eleven main groups on general lines and sub-dividing into sixty groups along particular lines. This grouping system has been designed to adapt itself to the system of grouping in the Canadian customs tariff, the general classification in the Canadian census returns, the grouping system indicated in organizations in all countries, and includes all Trade Sections and Associations already organized in Canada.

There are factors in every branch of industry which may with advantage be dealt with collectively, and it needs but the suggestion of a motive to set the machinery in operation to bring manufacturers in similar lines of production together in any of the centres in Canada in which the Association maintains a staff.

It is hoped that manufacturers will avail themselves of the facilities at their disposal.

Company Test Cases

Reporting on the situation as regards company law, the Legislation Committee states that,—

"His Majesty's Privy Council has granted leave to appeal in the cases involving the validity of the company licensing acts of Saskatchewan, Manitoba and Ontario, the several cases to be consolidated and heard together. This fact and the comments of their Lordships on the hearing of the application for leave indicates that the end aimed at in bringing these cases is likely to be attained, viz.: that the whole subject will be taken up on a broad basis which will insure a determination of the questions at issue not only for the province directly concerned, but for other provinces as well. It will be remembered that the cases were instituted and carried as far as the Supreme Court of Canada by the Canadian Manufacturers Association. This was as far as the Association felt justified in going. Arrangements have now been made by some of the companies interested to finance the further prosecution of the appeal, and the Dominion Government will be represented as intervenent and will bear part of the expense. It is not yet known whether the cases will be heard at the November sittings or whether they will be held over until the spring."

Many Visitors to the Office

During the past two weeks the Commercial Intelligence Department of the Association has been favored with visits from a large number of business men from Canadian points and from different parts of the world. The Department has had great pleasure in enabling them to get in touch with many members of the Association with a view to promoting business. Among those who visited the office were the following:—

Mr. B. Willoughby, Managing Director of Willoughby & Co., Limited, Sydney, Australia; Mr. H. L. Jones, of Jones, Sweet & Co., Import and Export Merchants, Shanghai, China; Mr. H. S. Hart, of Dimond & Hart, Wellington, New Zealand, Wholesale Merchants; Mr. H. A. Barron, of H. A. Barron, Limited, Cape Town, South Africa; Mr. Stamos Zographakis, the Trade Commissioner in Canada for Greece; Mr. M. E. Reich, representing commercial interests in Czecho-Slovakia; Mr. Miles Nelson, of Auckland, New Zealand and Melbourne, Australia; Mr. John J. Matveenoff, of the Russian-America Trade and Industry Development Corporation, New York; Mr. W. C. Simpson, of the Robinson Shields Company, London, England; Capt. P. C. Hollingsworth, of John Lofthouse & Company, London, England, and many others.

Workmen's Compensation Boards Convene

The Association was represented at the Sixth Annual Convention of the International Association of Industrial Accident Boards and Commissions, which was held in the King Edward Hotel, Toronto, on September 23-26, by Messrs. Sam Harris, chairman Legislation Committee; W. C. Coulter, chairman Toronto Branch; R. L. McIntyre and H. Macdonald, legal secretary. The conference, which was presided over by Mr. George A. Kingston, commissioner of the Workmen's Compensation Board of Ontario.

dealt with a large variety of subjects affecting classification of industries, statistics on accidents, compensation insurance cost, cost of medical and hospital treatment by nature of injury, etc. Mr. Samuel Price, chairman Workmen's Compensation Board of Ontario, stated that in Ontario last year only 1½ per cent. of all assessments paid by employers—excluding the amount expended by them in safety work—went toward expenses; the other 98½ per cent. was for actual benefits to the workmen, and none was needed for litigation or legal fees. Mr. A. H. Young, manager Industrial Relations, International Harvester Company, spoke on "Co-operative Representation of Employees in Industrial Policies," describing the work done by the company.

Dominion Bankruptcy Act

Reviewing developments leading up to and following the enactment of the Dominion Bankruptcy Act, the Legislation Committee in its report to the Executive Council says,—

"After discussion in the Canadian Parliament during two sessions and preliminary preparations extending over several years, a Federal Bankruptcy Act was passed in the 1919 session, which may be regarded as a factor in the readjustment incidental to the war. During the course of the bill, our Legal Department, through our Ottawa office, kept in close touch with the Government and with other public bodies upon the subject, with a view to safeguarding the interests of manufacturers. We are glad to state that we were able to introduce very important amendments which are incorporated in the act and which will contribute to the greater protection of creditors, in line with the legislation of other countries.

"Amongst these amendments we particularly urged the adoption of provisions for proper accounting by and discharge of trustees in bankruptcy, and procured the enactment of effective clauses providing that unclaimed dividends shall be deposited by the trustee with the Minister of Finance, to be afterwards available to creditors entitled thereto, with accrued interest thereon.

"Your legal secretary prepared and issued to all our members a digest of the act in circular form, many expressions of appreciation of which were received, as well as numerous requests for additional copies for the use of branches in both Canada and the United States.

"The old assignment acts of the various provinces will become non-effective as soon as the Governor-General has proclaimed the new act. This will be done when the general rules, which are now being drafted, are completed, which will be sometime about November."

Engineering Standards Association

At a meeting on September 8 of the main committee of the Canadian Engineering Standards Association, in which the Canadian Manufacturers Association is represented, the following new members were appointed:—J. M. R. Fairbairn, nominated by the Canadian Pacific Railway; H. G. Kelley, nominated by the Grand Trunk Railway; A. F. Stewart, nominated by the Canadian National Railways; F. A. Gaby, nominated by the Hydro-Electric Power Commission of Ontario; A. A. Dion, nominated by the Canadian Electrical Association, and J. Stadler, nominated by the Canadian Pulp and Paper Association.

Lists of members for the following sectional committees were approved:—Electrical, chairman, Dr. L. A. Herdt; steel bridges and construction, chairman, G. H. Duggan; wire rope, chairman, Professor H. M. Mackay.

Recommendations as to membership of the following sub-committees were received and the committees appointed accordingly:—Steel railway bridges, chairman, P. B. Motley; incandescent lamps, chairman, John Murphy; transformers, chairman, A. A. Dion.

The Secretary reported the progress made with regard to various questions already under consideration, and further reported a number of requests for action on the part of the Association. Several of these were approved for further enquiry and report.

The Chairman then welcomed Mr. C. Le Maistre, the Secretary of the British Engineering Standards Association, who is now on a visit to Canada and the United States. Mr. Le Maistre described briefly the work of the B.E.S.A., and drew the attention of the Committee to certain matters in which his Association would welcome the assistance and co-operation of the Canadian Engineering Standards Association, referring especially to proposals which have been made with a view of obtaining some degree of Anglo-American agreement as to screw-thread standards. Mr. Le Maistre further pointed out the desirability of international agreement as to rules affecting electric appliances and fittings, particularly for interior use.

As regards the first suggestion, it was decided to appoint a sub-committee on screw threads, with instructions to consider and report on Mr. Le Maistre's communication.

Considerable discussion took place on the question of rules for electric appliances, and the committee agreed that the formulation of a Canadian electric code was most desirable. The committee then directed that a sub-committee should be called together to enquire and report further as to this point.

Catalogue and Sample Room at Liege

The Association has been furnished with a memorandum reviewing the work for the past six months by the Catalogue and Sample Room at the British Vice-Consulate at Liége. Owing to the impossibility of providing a special employee for the section, the room has only been open for two hours a day and five days a week, but, during the last 125 days under review, the number of visitors has aggregated 735, 330 prospective buyers of British goods and 463 applicants for British agencies have also been dealt with by correspondence.

The response of British firms for catalogues and samples of small bulk has hardly fulfilled expectations, but it is to be hoped that an important increase in the number received will be assured, as the facilities which this organization provides for bringing British products to the notice of Belgian buyers are realized. It should hardly be necessary to state that catalogues for Belgium should be in French if possible, with metric measurements, etc. The number of firms who have sent publicity matter up to date is slightly in excess of 300.

The organization described above being largely in the nature of an experiment, the continuance and development of which must depend upon the results attained, it is urgently requested that all firms who succeed in doing business by means of the publicity offered them should notify the fact to the British Vice-Consul, Liége.

Swiss Delegation Coming to Canada

Arrangements have been made between the Canadian Mission, London, and the Government of Switzerland in regard to a visit of a Swiss delegation to Canada. The delegation includes representatives for the special study of:—(*a*) Government Administration; (*b*) Universities—Arts and Sciences; (*c*) Medicine—Hospitals; (*d*) Banks; (*e*) Board of Trade; (*f*) Architecture; (*g*) Hotel Management; (*h*) The Press; (*i*) Commerce and Industry.

The Canadian Mission states that about ninety of the three hundred delegates will visit Canada and that the

majority of these delegates are interested in matters concerning trade and industry.

It is expected the delegates will enter Canada via Niagara Falls, between October 1st and October 15th, and will remain in Canada about two weeks. The Canadian Trade Commission, Ottawa, will make the necessary arrangements regarding the tour through Canada, with Mr. Oscar Bosshard, the Commissaire of the Bourse Suisse du Commerce of Berne, who will accompany the delegation.

Trade With Jamaica

At its last meeting the Tariff Department considered a letter from E. A. H. Haggart, Kingston, Jamaica, which deplored the reduction in Jamaica's purchases from Canada. The percentage of her purchases from Canada, the United Kingdom, the United States and other countries in each of the years, 1877, 1887, 1897, 1907, 1917, was as follows:—

	1877	1887	1897	1907	1917
Canada	13.9%	5.6%	7.2%	5.5%	6.7%
United Kingdom ..	50.7%	62.0%	46.7%	47.4%	19.5%
United States	31.6%	28.3%	43.3%	43.6%	70.1%
Other Countries ..	3.8%	3.1%	2.8%	3.5%	3.7%

Jamaica's sales to Canada, the United Kingdom, the United States and other countries, are in the following ratio:—

	1877	1887	1897	1907	1917
Canada	.005%	1.31%	1.11%	7.88%	15.03%
United Kingdom ..	79.46%	38.62%	25.97%	22.37%	45.20%
United States	15.4%	43.93%	57.96%	55.60%	28.22%
Other Countries ...	5.31%	16.12%	14.93%	13.12%	11.25%

It will be seen from the foregoing that Jamaica's purchases from British countries have been steadily dwindling. Over 70 per cent. of her requirements are now purchased in the United States. On the other hand, the sales of Jamaican products to British countries have been steadily increasing, so that now the greater proportion of her sales are to British countries. The products of any British country entering Jamaica are subject to the same rate of duty as would apply on like goods entering Jamaica from the United States. On the other hand, Jamaican products entering Canada are admitted throughout at the lowest British preferential tariff rates provided in the tariff of Canada. In the circumstances the Tariff Committee directed that these facts be brought to the attention of Mr. Haggart, in order that he might take the matter up with the Jamaican authorities, in the hope that they may be persuaded to participate in the policy of strengthening national ties between British countries by extending preferential tariff treatment to British goods.

Stratford Manufacturers Visit West

Six furniture manufacturers of Stratford, Ont., have recently completed a tour through Western Canada. They visited all the important centres as far as Victoria, B.C. They report that they see great business possibilities in the future of Western Canada. Many discussions were held with western dealers and a great many common problems were discussed. Considerable benefit resulted from the interchange of opinions, personally, and a great deal of valuable information was secured. The visit by manufacturers representing the same trade to Western Canada —or, in fact, to other parts of Canada—cannot fail to produce excellent results.

The Stratford manufacturers who made the trip West are as follows:—D. M. Wright, president of Geo. McLagan Furniture Co.; H. W. Strudley, president of Imperial Rattan Co.; W. J. Anderson, president of Stratford Chair Co.; F. M. Gifford, president of Farquharson & Gifford Co.; Chas. A. Moore, president of Stratford Mfg. Co.; F. W. Trebell, manager of Kindel Bed Co.

Textile Manufacturers Meet

Under the auspices of the Canadian Textile Institute and the Canadian Woollen Manufacturers' Association, which is now a section of the C.M.A., a meeting of textile manufacturers was held on September 6, in Toronto, to hear an address by Professor Barker, of Leeds University, who had just completed a tour of Canadian mills. Prof. Barker outlined the policy as regards technical education, which he believed that Canadian manufacturers should adopt. Prior to the holding of this meeting, the Canadian Textile Institute held its annual meeting at the King Edward Hotel, at which there was approved a memorial to the Government on the subject of technical education. In the evening a banquet was held, at which technical education was again to the fore, speeches being delivered by Professor Barker, Hon. Dr. Cody, Sir Robert Falconer and others.

Recent Activities of the Montreal Branch

By W. P. HUGHES
Secretary, Quebec Division, C.M.A.

MONTREAL BRANCH members are manifesting an increasing appreciation of the value of group conferences. During September sixteen trade group meetings were held in the branch board room, while requests for board room reservations already extend over the first two weeks in October. This is considered a most encouraging development, for co-operative study of common difficulties is without doubt the most valuable method of solving the many problems with which manufacturers are faced in this period of far-reaching readjustments. It is the policy of the branch executive to afford every possible facility to the members for such group meetings, and they are following the increase of interest manifested with a great deal of satisfaction.

The September meeting of the Executive Committee, which was held in the Engineers' Club, on Thursday, September 18th, was well attended and definite plans were drawn up for the year's activities. The Reception and Membership Committee, under the able leadership of Mr. F. W. Stewart, submitted a comprehensive programme, covering two important aspects of branch endeavor. The first was a series of general meetings, to be held every two months throughout the season. Mr. Stewart reported that it was the intention of the committee to secure speakers whose prominence and ability would insure deep interest on the part of the members.

He intimated that already negotiations were under way to obtain such outstanding speakers as Sir Henry Drayton, Minister of Finance; the Honorable Mackenzie King, newly elected leader of the Liberal party; E. W. Beatty, President of the C.P.R., and Dr. Michael Clark, of Red Deer; and stated that he confidently expected these negotiations would be successful. He announced that it had been decided to set apart at least one evening during the winter for a purely

A WARNING

Information on the best authority has been received stating that the publication of the "Echos de l'Exportation" is a German paper, although edited in France. We would warn Canadian manufacturers against this publication. It is apparently a medium of economic espionage run for the benefit of German trade in France.

"get acquainted" gathering of the members, on which occasion smokes and general entertainment would alone be in order.

The other important development disclosed by Mr. Stewart's report was a thorough membership campaign. It was possible, he explained, to secure new members from two sources. First from the comparatively small number of manufacturers within the jurisdiction of the branch, who were not already members and secondly from a campaign carried on among our present members, to the end that additional memberships be taken out by them. The committee, he affirmed, were already at work and had encouraging results to show.

A list of the firms deemed eligible for membership had been completed and arranged according to location. A personal letter had been sent to each of these, extending a cordial invitation to them to become members, intimating that if a reply in the affirmative had not been received within a reasonable delay, a member of the committee would call upon them, and that it was hoped they would have the application blank sent them filled out pending such a call. Each of the members of the committee had taken some eight or ten of these prospects and the actual canvass was well under way.

Additional Memberships

With regard to additional memberships from firms already members, the committee had felt that it was highly desirable to have as many as possible of the men who were actually engaged in the various departmental activities of big businesses available for the Association study of particular problems. These men could bring to committee work the expert knowledge which they had acquired in their daily work, and so the questions would be much more intelligently discussed and the results would undoubtedly be much more beneficial to the members at large. It seems reasonable, Mr. Stewart suggested, that such a committee would understand a problem much more thoroughly and be in a position to suggest remedies much more effectively than would a group not so intimate with the subject. In securing the additional memberships it would be suggested that the company signify the particular department in which the additional representative was engaged. This information would be collected for ready reference.

Fifteen applications had been examined by the committee to date, and had received the approval of the Membership Committee. Upon motion of Mr. Stewart, seconded by Mr. Miner, these were unanimously passed by the Executive Committee and recommended to the Central Executive for final adoption. The companies and names of representatives thus passed were as follows:

Lockwood, Greene & Co., of Canada, Ltd.; Mr. E. G. Horne.
Precision Tool & Machine Co., Ltd.; Mr. G. M. Smith.
Salem Oil & Grease Co., of Canada, Ltd.; Mr. E. F. Richards.
Legare Auto & Supply, Ltd.; Mr. L. T. Fogust.
Lymburner Brass Works, Inc.; Mr. J. L. Murphy.
Herald Press, Ltd.; Mr. T. A. Tod.
La Compagne Marchand Freres, Ltee.; Mr. O. Marchand.
Thos. V. Bell, Ltd.; Mr. Thos. N. Bell.
International Machinery & Supply Co.; Mr. W. J. Carrigan.
Second representative, Mr. J. T. Dohm, 2nd membership.
Third representative, Mr. R. J. Hiller, 2nd membership.
Nichols Chemical Co., Ltd.; Mr. C. H. Lyons, 2nd membership.
Berliner Gramophone Co., Ltd.; Mr. R. S. Chilvers, 2nd membership.
Riordon Pulp & Paper Co., Ltd.; Mr. A. D. Huff, 2nd membership.
Algoma Steel Corporation, Ltd.; Mr. G. A. Irwin, 2nd membership.

Eminent Montreal branch members were present in Ottawa attending the Conference on Industrial Relations. Several of these directly represented branches of industry, as the nomination of the Association, while others were present in some other capacity. T. P. Howard, as President of the Association, was in daily attendance, and among those at the conference were Carl Riordon, of the Industrial Relations Commission; John Lowe, connected with the Government Labor Sub-Committee; A. H. Brittain, of the Canadian Fisheries Association; Mark Workman, R. H. McMaster and H. E. Rice, representing the Steel and Iron Industry; F. G. Daniels, the Cotton Industry; F. P. Jones, manufacturers of clay, glass and stone products; R. E. Jamieson, the Rubber Industry; Wm. Rutherford, the Lumber Products Industry.

A full report of this conference is being sent to every member through arrangements effected by the head office, and will be studied with interest when it arrives.

Commercial Intelligence.

The branch office has been the centre during the month of much activity in disseminating commercial intelligence, both as to domestic and foreign trading possibilities. No less than nineteen representatives of foreign buyers and importers have visited the office in quest of information as to sources of supplies of this or that commodity. In a number of cases there is good ground for stating that satisfactory business has resulted to the manufacturers from this service. A conscientious attempt has been made to investigate the standing and experience of men who have come looking for agencies. Names of members have been given them with a view to protecting the members from the irritation of demands upon their time by inexperienced and unqualified persons desiring to establish themselves.

Offers Five Hundred Dollars

Toronto Publication Holds Competition to Determine How Sales-Costs May be Lowered

An opportunity for those who have ideas to offer as to how sales-costs can be lowered in order to off-set the present clamor against the high cost of living, is afforded by the editor of *Marketing*, a monthly magazine devoted to the problems of selling and advertising in Canada and published in Toronto. Five hundred dollars in prizes are offered for the best articles dealing with any phase of selling or advertising containing practical answer to the problem. There will be six awards in all, the best article receiving $150; the next best $100; the two next best $75 each and the fifth and sixth in order, $50 each. Articles of about 2,500 words are desired, though they may be longer, and they should reach the editor of *Marketing* not later than November 1.

Justification of Made-in-Canada Movement*

Essential that Canada's Revenues Should be Conserved and the Most Made Out of Her Productive Possibilities in Order that She May be as Nearly as Possible Self-Supporting

By T. P. HOWARD

President, Canadian Manufacturers Association

WHEN I received an invitation to address you, I hesitated, for it seemed to me that I must first decide whether or not I had a message that would be germane to the nature of your interests and deliberations. You are a group of busy men, and therefore it would be a waste of time and a failure on my part to appreciate the fitness of things did I consent to come before you without something practical to say.

Your business is to buy. As buyers you represent a determining factor in the distribution of demands for production. To illustrate what I mean, let us say that two million pairs of shoes are needed for the people of Canada during the next six months. This would constitute the demand for production of boots and shoes for that period as far as Canada is concerned. But how is this demand distributed among sources of supply? What factories participate in this production? These questions can be answered only by buyers. They decide these matters, and in so doing, they distribute this demand for production of boots and shoes; and so it is with all demands for production. When you give an order for five thousand tons of flour, or for five thousand yards of piece goods, or for any quantity of any commodity, be it large or small, you are distributing just that much of the demand for production in that particular line of goods. It is so important to Caaada, especially at the present moment, that this distribution of her demands should be as far as possible within her own borders that I feel a real opportunity presents itself to me in the invitation to come here this evening. I want, therefore, to speak to you plainly as distributors of Canada's demands for production on the subject of the vital relationship which exists between that distribution and the economic and social welfare of our country, for it is this relationship which justifies a Made-in-Canada movement.

Buy to the Best Advantage

I recognize that your judgments in this distribution are of necessity controlled primarily by comparison of possible sources of supply. It is your chief concern as wise purchasing agents to buy to the greatest advantage from the standpoint of the organization you represent. This must always be true, and it is with no attempt to minimize this fact that I ask you to consider what is involved when you place your orders, and thereby distribute Canadian demands for production. In terms of money, millions of dollars are annually directed into this or that industry, to one or another section of this country, or to some country other than our own. But money is only a standard of value. Translated into its values, it represents, in the last analysis, food, clothing, shelter, in short, those things which are necessary to sustain individual life and to make that living attractive; to an industry, community or a country, it means social health, prosperity and development. Orders insure busy factories, busy factories an abundance of employment, and when the citizens of a country are wisely and profitably employed, that country is on the road to national prosperity. These truths are so self-evident and so commonplace that they are of the nature of platitudes, but they are facts which we as Canadian citizens to-day should ponder well.

An Appalling Obligation

Canada, as well as other nations who were engaged in the war, is facing a tremendous increase in national debt and expenditure. In five years our debt has jumped from $43.49 to $160.72 for every man, woman and child in the Dominion. The carrying charges on this debt, including interest and sinking funds, have advanced from $1.96 per capita in 1913-14 to an estimated $12.16 per capita for 1919-20. During the war period, expenditure on consolidated fund account has risen from $127,384,473, to an estimated $351,785,491, for the current fiscal year. In the same period capital expenditures have jumped from $37,180,176 to an estimated $85,893,581, exclusive of war expenditures, which are for the fiscal year estimated at $296,696,614. This is an appalling financial obligation, which can only be met by strictest economy in the use of our revenues and by maximum realization of our resources.

What would you say of a family that had incurred a debt relatively as large and yet paid out a considerable portion of the family income for work while several members of the family did no work, or worked only part of the time, because there was not enough work to go around? Or what would you think of the business acumen of this family if they did only the rough and menial labor themselves, and handed over all the profits accruing from producing the highly finished product to outside workmen no more skilful than themselves? And yet the analogy between such a family and a country in the position of Canada is complete. That is just what Canadians are doing when they import more than they need to import, viewed from their own productive capacity, or when they ship out of the country the raw products of farm, forest or mine, and buy the same materials back in their fully manufactured state. It is just as poor management of the affairs of our nation and just as great a failure on the part of her citizens to conserve her revenues as it would be in the case of that family.

Conserve National Income

You will agree, I think, that it would be poor business at any time for a family or a country to conduct its affairs in such a fashion, and under the financial obligations described that it would be nothing short of utter folly. If you were that family's adviser, would you not counsel them to conserve the family's income by first exhausting their own powers of work before they employed others to help them, and would you not insist that the only sensible thing for them to do would be to get for themselves all the profits that their brains and skill could create? This is precisely the

*An address delivered before the Purchasing Agents' Association, of Montreal and District, at the Corona Hotel, Montreal, on September 9, 1919.

counsel which a large number of prominent Canadian citizens are urging in the Made-in-Canada idea.

Other countries, some of which are by no means as relatively burdened with debt, realize the wisdom of this counsel. Throughout the world there is a pronounced economic movement towards the development of home markets, and steps have already been taken by the leading nations to accomplish this through increased protection of those markets. Canada alone stands in the unenviable position of being faced with an organized class demand for lower protection. In the United States no less than twenty-two bills have been introduced in the House of Representatives this session calling for higher protection. It is significant that among these measures two bills demand repeal of the Reciprocity Act. The attitude of the American farmers towards Canadian competition was indicated in a recent speech by Mr. George M. Young, Representative from North Dakota, and the father of one of the anti-reciprocity bills, Mr. Young said in part:

Americans Demand Protection

"The Underwood law did not get well under operation before the European war began. The conditions created by that war have acted as a high protective tariff. Then we get back to peace conditions . . . . . the American farmers will raise a howl which, by comparison, will make the roar of protest against Canadian reciprocity seem like a feeble murmur. In other words, when the farmers really find out that the Underwood law lets down the bars as to agricultural products to a much greater extent than Canadian reciprocity, they will throw the men responsible for it higher than they did Mr. Taft."

As the American farmers are demanding protection, so manufacturers are asking for higher duties and there is a marked tendency to keep the American market for the American people.

In France, as the result of a decree of July 8th abrogating that of June 14th relating to *ad valorem* surtaxes on imports, increases in French protective duties will range as high as two hundred per cent. This simply means that France says we will conserve every last franc of our revenues that we can, by doing as much of our reconstruction work as we are able to do. We will import only those things that we cannot ourselves produce, and in that I submit she is wise.

In the British Empire, Great Britain, while committed to Imperial preference, is restricting imports and protecting home industries. Acting Premier Watt, of Australia, has announced the introduction of a measure for higher protective duties. The Premier of South Africa has stated that the revenue tariff of that country will be increased to protect home industries. Japan is imitating pre-war Germany, and is following an extreme policy of protection. Practically every leading statesman of Brazil has declared and voted for a stiff protective tariff, and the country is solid for such a measure.

Revival of Movement

In Canada, in spite of the opposition referred to, there is a widespread revival of the Made-in-Canada movement. The present unfavorable balance of trade with the United States gives stimulus to this spread. Canadian money is at a discount of 3½ per cent. in New York, and in some of the border cities, merchants have taken as high as 10 per cent., while 6 per cent. is a general rule. It is recognized that the exchange situation can be corrected only by the adoption of a national policy of buying Canadian goods and encouraging Canadian industries. If Canada had manufactured at home the commodities imported during the last fiscal year, employment would have been given to more than 100,000 people, and approximately $100,000,000 that went to other countries would have remained in Canada. While I do not mean to imply that a total conservation of these revenues was possible, yet I do maintain that much was needlessly imported. Employment at good wages for thousands of workmen and millions of dollars were thus unnecessarily lost to Canada.

In a special appeal for the purchase of Made-in-Canada products, the Western Committee of the Canadian Reconstruction Association recently published a long list of such imports with an estimate of the additional number of Canadian workers for whom permanent employment would have been provided, and the corresponding addition to the pay-roll of Canadian factories, had these goods been manufactured at home. Here are a few of them:

Commodities.	Value of imports into Canada for home consumption during fiscal year ended March 31st, 1918.	Estimated number of permanent additional Canadian workers for whom employment would have been provided if imported products had been manufactured here.	Estimated addition to pay-roll of Canadian factories if imported products had been produced in Canada.
Boot, shoe, shirt and stay laces.	$275,591	65	$57,000
Boots, shoes and slippers, except rubber, etc.	414,822	95	85,000
Brooms and brushes	670,623	155	135,000
Candles	160,330	37	33,000
Carpet sweepers	103,203	25	21,500
Combs	173,289	40	35,000
Corsets, clasps, etc.	390,132	90	81,000
Cotton, manufactures of	35,230,546	8,100	7,200,000
Curtains trimmed or untrimmed.	357,328	82	73,000
Elastic	154,229	35	31,000
Furs and manufactures of	936,029	236	189,000
Gloves and mitts	1,688,944	425	340,000
Hats, caps and bonnets	3,354,440	771	680,000
Knitted goods of every description	230,296	53	47,000
Silks and manufactures of	13,848,395	3,183	2,800,000
Wool and manufactures of	24,004,193	5,517	4,900,000
Total	$81,992,390	18,909	$16,707,500

Is that kind of business management calculated to provide our country with funds necessary to pay our debts? Eighteen thousand nine hundred and nine outside workmen were employed, receiving $16,707,500, to produce commodities for which we had to pay $81,992,390, while Canadian workmen looked in vain for work or found part time employment only.

Gives Home Employment

A more extensive list on a similar line has been issued by the Canadian Trade Commission, enumerating various products that can be purchased in Canada, thus developing the home market, and the Commission says that "for every million dollars retained in Canada by a refusal to buy other than Canadian goods, a year's continuous employment can be given to at least one thousand people." Sir Edmund Walker says: "Every dollar's worth we buy abroad means that a dollar's worth has been diverted from a Canadian workman."

Gentlemen, as citizens of Canada, we should, I urge, do all in our power to end this stupid waste of man power and of money. But this is not the only way in which we have followed the short-sighted lead of that debt-burdened family: Last year, for instance, 1,300,000 cords of pulpwood, valued at $8,500,000 was exported, which, if manufactured into paper at home, would have represented more than $75,000,000, and provided an additional $25,000,000 for wages for Canadian workmen. So with other Canadian industries. Canada exported last year unfinished products to the value of more than $900,000,000. If the manufacturing processes of even one-third of these had been completed in Canada, employment would have been given to at least 125,000 more workpeople, close to $125,000,000 would have been provided for

additional wages, and salaries, and the net value of Canadian products have been increased by approximately $275,000,000.

Are we to continue doing the rough and menial work while others get all the benefits of brain and skill? Do we resign ourselves to this fate by acknowledging any superiority in foreign brains or skill? We do not. We have shown the world during the past five years that Canadian brains and Canadian skill of workmanship are equal if not superior to the best that is produced elsewhere. Not only on the fields of Flanders has this been proved, but in the billions of dollars' worth of manufactured products that we have supplied to the Allies, with which to carry on the fight against the Hun, we have demonstrated our ability to others; they have acknowledged it, but we must realize it ourselves.

Here then is the proposition I put to you as buyers: If you agree with me that it is essential to Canada that revenues should be conserved and that the most should be made out of her productive possibilities, and if you further agree with me that it is only by supplying as many of our wants as we can ourselves, that this conservation and realization on resources can be effected, will you not also agree that in every decision by which you distribute a portion of those demands for production you should give Canadian goods first choice, qualities and prices being equal?

Principles at Stake in the Big Steel Strike

By J. T. S.

THE strike of the employees of the United States Steel Corporation, which began on September 22nd, affecting a host of subsidiary companies dependent upon this basic industry, is a matter of grave concern, not only to those connected with the companies implicated, but also to the entire nation.

According to an Associated Press despatch, dated New York, Sept. 22nd, the United States Steel Corporation, at the beginning of this year had 268,710 employeees, to whom it paid in salaries and wages $452,663,524 annually.

The average daily wage of all employees, exclusive of the general administrative and selling force, was $5.33. The Corporation controls 145 plants.

What the Men Demand

This is the programme of twelve demands prepared by presidents of 24 unions in the iron and steel industries on which the strike vote was based:

1. Right of collective bargaining.
2. Reinstatement of men discharged for union activities.
3. An eight-hour day.
4. One day's rest in seven.
5. Abolition of the 24-hour shift.
6. Increase in wage sufficient to guarantee American standard of living.
7. Standard scales of wages in all trades and classifications of workers.
8. Double rate of pay for all overtime, holiday and Sunday work.
9. Check-off system of collecting union dues and assessments.
10. Principles of seniority to apply in maintenance, reduction and increase of working forces.
11. Abolition of company unions.
12. Abolition of physical examination of applicants for employment.

Chairman Gary's Letter

The following letter from Chairman E. H. Gary, addressed to the Presidents of the subsidiary companies of the United States Steel Corporation, giving the reasons for declining to deal with labor unions, was made public by the Carnegie Steel Company on Sept. 16th:

"Not long since I respectfully declined to meet for the purpose of discussing matters pertaining to labor at our various plants a number of gentlemen representing certain labor unions. They claim this furnishes cause for complaint and have stated that they intend, if possible, to prevent a continuation of operations at our mills and factories.

"I deem it proper to repeat in a letter what heretofore has been said to you verbally. I entertain no feeling of animosity toward the gentlemen personally and would not hesitate to meet them as individuals, but I did not and do not consider it proper to confer with them under the circumstances.

"The declination was made for two reasons: First, because I did not believe the gentlemen were authorized to speak for large numbers of our employees, whose interests and wishes are of prime importance; secondly, because a conference with these men would have been treated by them as a recognition of the 'closed shop' method of employment. We do not combat labor unions as such. We do not negotiate with labor unions because it would indicate the closing of our shops against non-union labor; and large numbers of our workmen are not members of unions and do not care to be.

"The principle of the 'open shop' is vital to the greatest industrial progress and prosperity. It is of equal benefit to employer and employee. It means that every man may engage in any line of employment that he selects and under such terms as he and the employer may agree upon; that he may arrange for the kind and character of work which he believes will bring to him the largest compensation and the most satisfactory conditions depending upon his own merit and disposition.

"The 'closed shop' means that no man can obtain employment in that shop except through and on the terms and conditions imposed by the labor unions. He is compelled to join the union and to submit to the dictation of its leader before he can enter the place of business. If he joins the union he is then restricted by its leader as to place of work, hours of work (and therefore amount of compensation), and advancement in position, regardless of merit; and sometimes, by the dictum of the union leader, called out and prevented from working for days or weeks, although he has no real grievance, and he and his family are suffering for want of the necessities of life. In short, he is subjected to the arbitrary direction of the leader, and his personal independence is gone. Personal ambition to succeed and prosper is stifled.

"This country will not stand for the 'closed shop.' It cannot afford it. In the light of experience, we know it would signify decreased production, increased cost of living, and initiative, development, and enterprise dwarfed. It would be the beginning of industrial decay, and an injustice to the workmen themselves, who prosper only when industry succeeds. The 'open shop' will generally be approved by them, for this permits them to engage in any employment, whether they are or are not members of a labor union.

"It is appropriate to further emphasize what has been said many times in regard to our employees. Every one, without exception, must be treated by all others justly and according to merit. In accordance with our established custom, one of our workmen, or a number of our workmen from any department, will continue to be received by the management to consider adjustment of any question presented.

"It is the settled determination of the United States Steel Corporation and its subsidiaries that the wages and working conditions of their employees shall compare favorably with the highest standards of propriety and justice. Misrepresentations have already and will hereafter be made; unfavorable criticisms may be indulged in by outsiders, especially by those who have little knowledge of the fact; our employees may be threatened and abused in the effort to influence them to join the unions against their own desire; but, whatever the circumstances may be, we should proceed with the conduct of our business in the usual way and should give evidence to our employees that we mean to be fair with them."

Export Trade Opportunities in the Far East*

In China, Because the Country is Practically Undeveloped, there is a Better Opportunity than Anywhere Else for Doing Business—Matters that Should be Borne in Mind when Entering this Field—Should Send Best Men Available

By CAPTAIN ROBERT DOLLAR

IN the early days of this country it was hard for us to believe in opportunities in the Far East; we did not need them. The development of this great country took up all of our time and money; our manufactories were kept busy producing goods for our own needs. At that time we were a world within ourselves. Now the conditions are entirely changed. We are now producing more than we can use; therefore, we must either sell the surplus in foreign countries, or curtail our production. This latter none of us want to consider. Instead of curtailing, we all look forward to increasing our production, so there is only one way out, and that is to increase our sales in foreign countries.

Some people think, "Well, this don't interest me," but I want to say to you that there is not a man in this room that is not interested, either directly or indirectly, and I am pleased to note that many of you belong to the farmer class. All farmers are, or should be, intensely interested; every manufacturer, the merchants, bankers, railroads, and ship owners.

Sell Products to Others

The war, increased taxes, and the results of the war, have intensified the situation. The war tax must be paid, and how can it be paid? Certainly not by us trading amongst ourselves—to use a common expression, "swapping jack-knives"—but by selling our products to other countries, and receiving from them new money or by exchange of commodities, which is as good, especially if it is raw material from which we can manufacture and export the finished products, and anything we can do to make all classes of the community see and understand this vital question will be time and money well spent.

For many years after the Civil war in the United States, they, like ourselves, were busy in the development of the great Western States, which took up all of their time and attention. As a consequence, foreign trade was neglected. At that time it was not a necessity as it has become of late years. But now the whole country is aroused by the necessity of more foreign trade, and there is intense interest in all classes of the community. In every city in the States, foreign trade clubs and committees have been formed, and there are meetings almost every day to devise the ways and means of accomplishing the desired results.

Now, in Canada, there is some interest, but not as general as it should be, and it is up to every one of us who appreciate and know the value and the absolute necessity of foreign commerce, to be up and doing, and to convince our neighbors that we must have it. When the whole community are convinced of the importance of it, then you will see plenty of commerce with the outside world.

Therefore I hope I have convinced you of the necessity of foreign trade.

I have taken that part of the world as an example, although opportunities abound in many parts of the globe, especially on this continent, in the South and Central American countries, but I have spoken particularly of the Far East, as it is bounded by the same ocean that makes our western boundary, so it is just across the Pacific. I will confine my remarks more particularly to China, where there are between 400 and 500 millions of people, and, according to our ideas of development, it is practically undeveloped. Therefore, I believe there is better opportunity there than in any other part of the globe. They are the oldest country in the world, and, until a few years ago, and even at the present time in the interior of the country, the manners and customs of their country are just the same as in Palestine during the time of Christ on earth. But a tremendous change has come over a great part of their country, and now they want much that we have to sell, and we want much that they have for sale; therefore, our interests are mutual. The possible development and magnitude of this trade are not appreciated in this country. Take, for instance, the Yangtze river that is navigable for eight months every year for the largest ocean-going steamers as far as Hankow, about 800 miles from the ocean, and no river improvements of any kind have ever been made. You will understand its importance when I tell you that one-seventh of the population live in the country drained by this great river and its tributaries. The river Han enters the Yangtze at Hankow. It is about one-quarter of a mile wide, and where it falls into the Yangtze I have seen a solid jamb of boats a mile long. This gives an idea of the commerce on this small river, situated in the geographical centre of China.

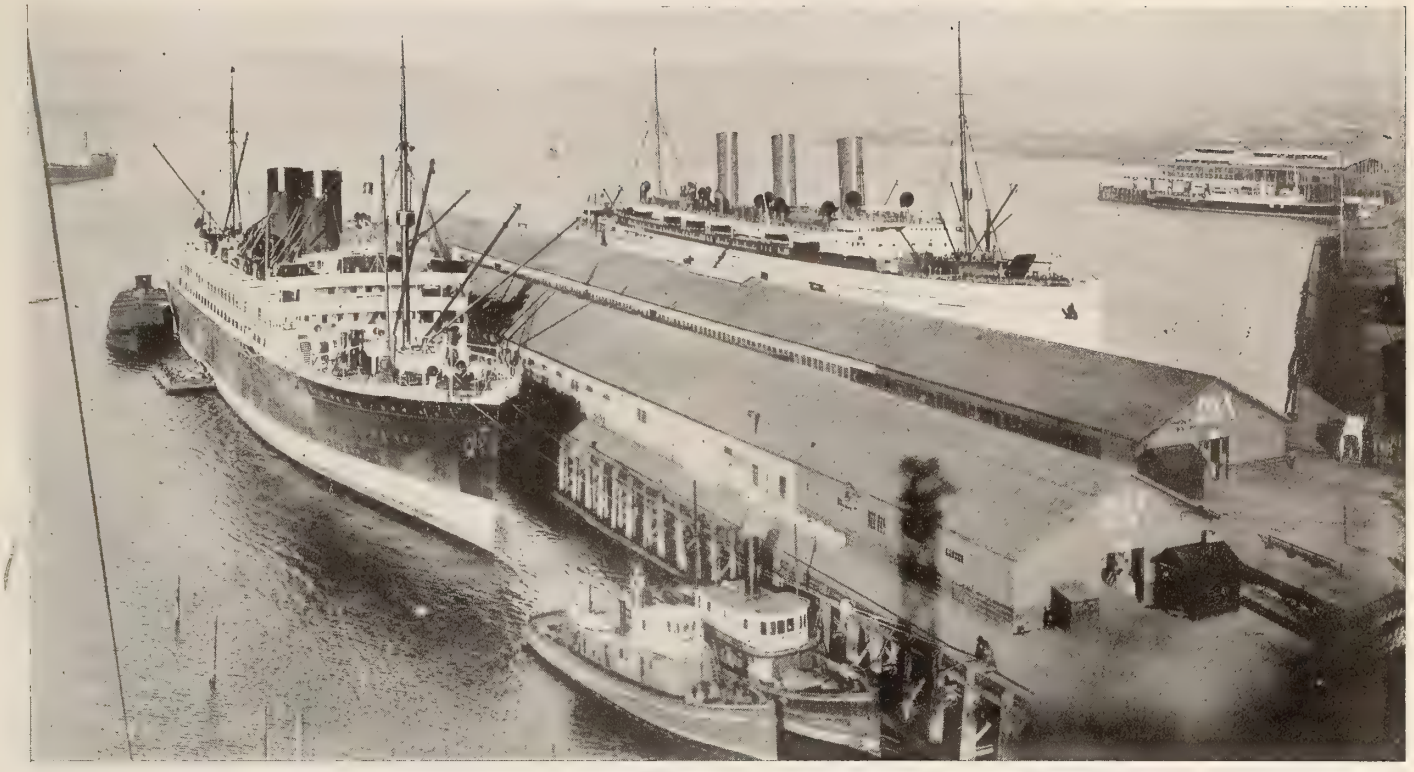
A German professor, sent by the late emperor to report on the coal fields of this part of China, reported more coal than in all the rest of the world. Of iron ore, little is known how much there is, but there is enough in sight for at least fifty years, and of a very high grade, and practically no development work has been done.

Province of Szchuen

More than 1,000 miles from the ocean is the great province of Szchuen, with over sixty millions of people, which is practically cut off from communication with the outside world on account of what is called The Gorges. This is a rapid which makes navigation impracticable. The rise from low to high water is 150 feet, although five small powerful steamers have succeeded in going up through those rapids and junks are pulled through them by over one hundred men, but the great loss of boats has made insurance next to impossible; therefore, the rate of freight is so high that only the most valuable products can be transported. But this great community, a country by itself, produces in the most primitive way every necessity of life. Several surveys for a railroad line have been attempted, showing that a practical line could be built. On the last of those surveys, bandits captured two of the Americans and claimed and received a large bounty for delivering them back alive. These Americans were in the employ of the American International Corporation, of which I happen to be a director.

When a railroad is built it will open up a very rich field for foreign commerce that at present does not exist. To give you an idea of the diversity of the present trade I took the commodities carried on two of our steamers, which sailed

* Address delivered before Alberta Industrial Congress at Calgary, August 14, 1919.



Scene on the waterfront of Vancouver showing liners loading freight for the Orient

from Vancouver to the Far East, and found they carried from this country 242 different commodities and brought in 120. I have the list here, but it is too long to read to you. Therefore, I am quite safe in saying that there is not a person here who is not interested in some of these articles. Unfortunately for Canada, 90 per cent. of all those goods originated in the United States, and it will surprise you to know that a great deal of them find their way from and especially to Canada through the United States.

The field of opportunity is so large that Canadian merchants in going into it need not displace any other nationalities already engaged in this traffic. But they will develop new industries which do not exist at present. For instance, the time is near at hand when highways will be built in China, at which time there will be an unlimited demand for auto trucks and automobiles. You will be surprised to know that outside of a few cities there are no roads on which an automobile can run. The so-called roads are only fit for wheelbarrows, and in North China, one-horse carts.

The rivers and small creeks are used for transportation. There are only a little over 6,000 miles of railroads in China.

Development of Commerce

Now, to develop commerce, I hear a great many people say, "Let the government do it." The government can assist and are helping, but it is up to the people to do it, and if those meetings do no more than arouse Canadians to the necessity of going out for foreign trade, great good has been accomplished. The farmer can lead his horse to the water, but he cannot make him drink. The government send men to foreign countries and inform you of the opportunities, but unless the merchants go out after and develop the business no results are obtained. Your very best men must be sent to work up trade; none else will do it.

Then you must have branch banks; some are about to be established. You must also have ships. A small start has been made also to get them; they are great drummers of trade.

True commerce is an exchange of commodities, and as ships must have cargoes both ways, the shipowners, if they are to succeed, must develop business so that he can not only carry your products to the people of the world, but must bring back what other countries have to sell, thereby having cargoes both ways; otherwise your products would pay double freight if the ships came home without cargo.

Building Plant in Hamilton

Canadian Carbonate Co., Limited, are Adding Another Factory to Their System

Following their policy of placing plants wherever their growing business demands it, the Canadian Carbonate Co., Limited, who already operate plants in Halifax, Montreal, Toronto and Winnipeg, with warehouses at Quebec and Vancouver, are about to erect a factory in Hamilton. A site has been secured at the foot of Simcoe Street on Hamilton Bay and building operations will commence at once. A careful study has been made of plants in the United States and plans adopted call for building and equipment that will make the factory the most up-to-date on the continent. The building, which should be ready for occupancy by March 1, will be 100 x 50 feet and two storeys in height.

It is interesting to learn that the Canadian Carbonate Co. are now shipping all the carbonic acid gas used in the British West Indies, having captured this important market from the Germans. The gas is shipped from the Halifax factory and, by reason of adequate shipping facilities and attractive prices, a strong hold has been obtained on the market. The increasing use of refrigeration systems and the growing consumption of ginger ale and beer, are factors in the expansion of the business.

New Light on Subject of Technical Education*

Textile Manufacturers of Canada are Furnished with a Scheme of Education Based on the Experience and Investigations of one of the Foremost Authorities on the Textile Industry in Great Britain

By PROFESSOR A. BARKER

Dean of the Faculty of Technology, Leeds University, England

SOON after my arrival in this country I had the privilege of addressing a small audience at Montreal, and in that address I endeavored to deal with mathematics, physics, chemistry and art in their relation to the textile industry. At Hamilton, where I had the privilege of addressing certain leaders in the textile industry, I there referred to such matters as Mendelism and Bio-Chemistry and wool-growing problems.

At Hamilton I tried to show what the attitude of the employer and mill-manager should be towards the prospective employer and mill manager, and also towards the workers with whom every mill manager has to deal. That section of our work this afternoon will come very much to the fore, because it is impossible nowadays, and certainly impossible in Canada, to say that the mill worker does not concern you. You will have to take a lively interest in the employes as well as in thinking about training employers.

This afternoon I want to deal with the more fundamental questions that we have to face and see if we can get something more definite. Purposely I was very indefinite in my previous addresses. This afternoon, because I am hoping to see the industry in the United States, and also a little more of what the evolution of the textile industry is and is likely to be in the Old Country, I don't wish to be much more definite.

Canada is Committed to Textiles

The first question I want to ask is the first one that was put to me on arriving in Canada. One of my old students whom I was delighted to meet at Montreal put this straight away as soon as I landed: "Why should not Canada confine her attentions to farming and mining and leave manufacturing alone?" After having been round the industries here I have got to say that Canada is committed to textile industries. Your organizations are so developed that you have firms interested in the housing question. One can't question the fact. It is absolutely beyond question, and if it were not beyond question on that score, I should be almost disposed to think it would be on another score. One day this week I had the honor and pleasure of being taken out by the Duke of Devonshire, the Chancellor of our University, to the experimental farm at Ottawa, where I found that probably a good deal of the farming in Canada will have to be developed on the four year rotation, and in that rotation nothing will play a more important part than sheep farming. Very likely in the near future you will find that wool production here will be greater and you will have more raw material.

While in Ottawa, too, I went into the market place and saw the farmers coming in with their produce, *and the thought struck me that if there was no one to consume this produce, what would be the use of farming? It is actually to the advantage of the farmer, and will be more and more, that you should develop the textile industry on right lines and link it up on the lines I suggest, with the farming industry.*

The next point I suggest in this: Some of you might say, "'Well, while you have a large experience in the Old Country, can you put a scheme down before us which will fit our conditions?" Again I want to say authoritatively that there is no scheme working at present which will fit Canadian conditions. In other words you have to evolve your own scheme. The next thing that strikes me (and this is almost one of the most important things that I have to say to you this afternoon) is that Canada, both educationally and industrially, is in the sequence of world evolution. You are not cut off from Europe, still less from the United States, and in industry and education, in every line of thought and action, you to-day are not facing different problems, but you are facing the same problems from the same standpoint and the same difficulties that we are facing in the Old Country.

And we want your experience just as much as you want ours. Therefore Canada must play her part in defining actual lines of evolution. A more difficult thing for you to do, but a finer part for you to play, is that alongside other countries you should take your part in working out the salvation of the world as a whole. So, this afternoon, I want if possible, to attempt to help you towards a broader and at the same time, a more definite outlook on your industries through my own experience.

I have got a book here practically filled with notes on my visit to the various firms in Quebec and Ontario. Although I have missed many important concerns, I think I have visited concerns representative of the whole industry, and with my experience in the Old Country, with the experience I have had here, I want to put before you the conclusions I have come to, not in any dominating sense, but in the hope that you will be able to take some of them to yourselves and mould them to your own requirements. If I can add experience in the United States and finally draft my report which I hope to write on my return to England, I will be more definite. The problem is a difficult one because I have to deal with both the educational and industrial sides, to ask what should be the basis of action educationally, and what should be the basis of action, industrially.

Growth of Student's Mind the Basis.

I want to face these questions quite candidly because that might save a deal of trouble later. Technology is, between the devil and the deep sea. Your educationist says that technology is not education. The technologist says that the educationist is not practical. I have satisfied myself that the basis of consideration is the growth of the student's mind. You will get a better result by working on the student than by going to the industry and thinking that you are going to impose it upon him. I know a great deal has been talked about games in the English public school system. I am going to take a very bold stand. Some may say it is theoretical. I have tested it for twenty-one years and it is the line to take, not merely for the operative but for the capable manager in the mill and the capable organizer of industry.

The most useful definition of education, I think, is 'That training which best fits a man or woman to take a

*An address delivered on September 6, before a joint meeting of the Canadian Woollen Manufacturers' Association and the Canadian Textile Institute, held in Toronto.

progressive interest in life—to develop to the full his potentialities.' I think as an educationist, I should say that we must see to it that all courses of instruction that are given, such courses as I am going to suggest, must be scientific in the sense of being reasonably fundamental. We have got over the idea of the scientist who thought that everything might be brought down to certain fundamentals. We know now that we must find our own fundamentals. Courses of instruction must be reasonably fundamental, sequential and capable of stimulating imaginative insight. One word in reference to sequential work. No self-acting mule had been made for the reason that there was not a man in the industry who thought he could combine six or seven movements into one. So we had to go to a mathematician, Richard Roberts, who by his various powers of sequential reasoning, put them together and that is why we have a self-acting mule.

Mr. Saunderson, a famous English schoolmaster, believes that you must educate your boys in the subjects in which they are interested and in which their parents also are interested. If you are going to stimulate the imaginative insight of your student you have to take something that he is interested in. The educationists need not be afraid that textile industries, properly developed, wlil suppress either of these three things, fundamentals, sequence and imagination.

Must Have Efficient School Equipment

Look at the matter from the manufacturers' point of view. He must see to it that the conditions of satisfactory practice are attained. I would suggest that the manufacturers would attain to that by just attending to two points. First of all you can't teach satisfactorily by talking; you must have an efficient school equipment. I am changing the Leeds system from the lecture, from turning the department itself into a book, to the processes demonstrating the practical from the raw material to the finished fabric. The other way you can ensure satisfactory conditions of practice is to offer prospective students opportunities of practical experience in your mills. To my mind the ideal course is for there to be no break in the continuity of the university student's work. Give the student the practical work during the long vacation. In that way you will produce the ultimate efficient and progressive mill manager. First find capable students, second give them an efficient training, and third, give them opportunity. You can't do without any one of these three things. You will find you have not too many students with the necessary ability.

Then you may say European conditions are different from Canadian conditions. What are the requirements for the Canadian industry if satisfactory progress is to be made? Just one little difference we get here is very illuminating. You require a manager but you also require a pioneer, men trained for pioneer work. Was it Napoleon who said: 'Each private ought to have a Marshal's baton in his knapsack.' One would like to feel that each student should have a managership in his knapsack and that there should be some course mapped out for him to play the leading part in the industry.

Operatives Should be Happy

Hardly second to that you should have intelligent, interested and conscientious operatives and these operatives should be leading a happy life. You can't shut your eyes to the fact. I have sometimes wondered that men from the English slums had the spirit to fight for satisfactory conditions between nations. We realize what these men did and we are going to make conditions which will make them disposed to fight in the future if the call comes.

You must have well-equipped laboratories. In these days one cannot do without research. These laboratories and sheds must in some way be connected with other research equipments and that of course leads one to the idea that some association should develop between textile schools and the university. Also you require a bureau of standardization and a conditioning house, making possible scientific accuracy throughout the industry. Some people say we should not attempt to make it scientific, the industry being so diffuse. It is so diffuse that it is all the more necessary to develop it on scientific lines. Certainly you will find that a conditioning house established here would promote more scientific accuracy and ultimately your industry would be developed.

Erect Small Plants for Research Work

What equipment would be required to carry out all these points that I have suggested? I would suggest, in the first place, that you should start with your research plans, small plants where researches might be conducted with a view to pioneer work. You might certainly start with a small wool plant, combing and French drawing, and possibly silk. Supposing you were to develop a small combing plant and your manufacturers knew you could have batches of wool put through that plant to see if you could get what you required. If it proved satisfactory it would lead to your developing a plant on these lines and thus becoming pioneers in this industry. The hosiery industry requires large quantities of worsted yarn already produced here and practically as good as we spin it in England. It seems to me that McGill might very well take on cotton and, in view of the artistic merits of the French-Canadians, possibly the development of a designing school.

The first thing I suggest is small practical plants designed for experimental purposes and pioneer work, laboratories (physic and chemical) with the necessary classrooms. It need not be extensive. In some cases it might be advisable to refer to certain things to other departments of the university.

Then your standardization department. We have national laboratories doing excellent work. You will find a department here of that sort of great advantage. When wool is ten shillings a pound, and you know that wool as bought will vary from ten to forty per cent. in moisture, it seems to me that you would find a conditioning house and bureau of standardization would pay for itself in two ways. It would enable you to deal with expensive raw wool and silk, and it would also tend to get you on a really satisfactory, trite and definite basis.

Problems Being Worked Out

Some of the textile problems become enormous. In many cases from the individual point of view they are working out well. The result of development on the lines I have suggested would be that you would get some sort of income to the central institution and indirectly you would save a great deal of money. As to the scheme of working such an establishment, first of all you would have to take into account the prospective manager. The ideal training of course would be to go through such a school as I had the privilege of visiting this morning, working up to the university, and it seems to me that the university ought not to be entered before he reached the age of eighteen or nineteen, because what we want in the student later is the highest development of mathematics, physics and chemistry. So that if the student could be prepared in the industrial atmosphere such as you have in that school, still gaining that insight in the educational faculties to which I have referred, he could then be drafted into a three years science degree. I would not miss out the man trained otherwise. If a student can satisfactorily go through a three years course at the science school

then a post-graduate course in the textile industries would produce the man, not perhaps at once ready to become a pioneer but well on the way. In a very short time the industry would develop and I feel sure that very quickly it would be doing good work.

The Training of Textile Teachers

Get hold of the most intelligent men you can with the proper atmosphere, who knows what mathematical work is, who knows the atmosphere of a chemical lab. I would suggest that when the boy enters the university, he should say if he desires to go forward to textiles and, if he does, he should be given the opportunity and advantages of working in the mill during the long vacation.

I think you should also have the idea of training teachers on the lines of our university tutorial classes in the Old Country. We have between twenty or thirty tutorial classes in Yorkshire. In Sheffield and Manchester the same practice is in vogue. It seems to me the university ought to take in hand the training of these teachers to go out as pioneers and develop these classes.

Another point would be the institution of university internal classes in either cities, towns or villages or in the mills. If ten or twelve people want class in a certain subject we would be prepared to send a teacher to help them along. These classes should be of two types, vocational and technology taught as humanities with the idea of stimulating their interest and creating better workers, having more interest in life and having a larger outlook on life.

Then you have to deal with the matter of fundamental and technical research and you have to train your researchers. There is only one way to train them. Let the student researcher work alongside a trained researcher. We won't debate the matter as to whether research is connected with education; they go hand in hand and there are great advantages in running them side by side. Sooner or later you will find your factories able to take advantage of these researches. There is not the slightest use in finding out things if the industry is not ready to profit by what is found out. It is as important to train the men to go into the mills and apply the researches as it is to investigate and make researches.

Good Standardization Needed

I need not deal further with standardization. I think the manufacturers particularly will feel that standardization may have an influence in the evolution of the industry, and if you have a conditioning house, enabling you to have your goods standardized, you will have more confidence in your industry and finally evolve it upon the very best possible lines.

It is twenty years since I organized the first good exhibit of testing machinery in Bradford. One man said, 'Clear all that off; if people don't like to buy my cloth they can do without it.' The Bradford manufacturer to-day knows that the conditioning house has helped him to gain greater accuracy and better conditions. That is one of the things you could profit from our experience—greater confidence and greater protection in your work.

You gather then that the costs you would have to face would be the cost of building. Even your building should be put up to represent what the ideal should be. I feel in my department at Leeds though we never gave a lecture, that the effect of the buildings and the ideal conditions would have paid for itself. The truth is that in certain textile industries we have to fight against workhouse conditions. The woollen industry started in the workhouse. The cotton industry is entirely a machine-created industry. In some factories investigations are made to see to what pitch one machine can be tuned and all the other machines are tuned to the same pitch. Find out the best educational system and tune yours up to that. Fix the ideal first of all and make that the lowest that you are going to attain.

With reference to your equipment you will invariably find that machine makers would help you. Other expenses, such as power, agents and materials, etc., might run to a considerable amount unless you adopt the line I suggest of carrying through experiments for outside firms. I warn you against trying to make income from running your plant because that might go against your research work. When I tell you that our expenditure at Leeds runs into thousands you will realize that it is a pretty big scheme. I would suggest, however, if you do anything at all, or no matter if your start be small, to develop it as part of a greater scheme. Don't make the mistake of starting with a too limited outlook. My department at Leeds is very picturesque but not well organized simply because it has been put together piece meal. Have a large idea in mind.

Then the question is asked, "Is Canada justified in thinking of such a comprehensive scheme?" The real foundations of life have been changed. It is difficult to put it into words. Do not hope to get back to the conditions of 1914.

Conditions Different From 1914

The conditions we shall have to get back to will be very different from those of 1914 and when you realize the change in the outlook, the changes that are inevitable, you will realize that the prospective mill manager is going to have a great responsibility on his shoulders and the least you can do for him is to give him that training and education that will fit him to meet that responsibility and bear the burden. Then the foundations of education have been changed. I believe the strongest development has taken place recently. Mr. Saunderson, to whom I have already referred, has eliminated competition in his school. He has the idea that the competition of a boy should be with himself and not with his fellow student. I too believe there is something better than the present system. The word co-operation does not quite express it although it has something to do with it. It might be illustrated by the comradeship in the trenches. Canada and the Mother Country and other countries as well, will have to join together in working out these difficulties which we only partially see before us but which we feel coming on us.

It seems to me that you here on this continent have a great future before you if you face it in the right way. You must not face it in too commercial a spirit. I have tried to fix high ideals, not because they are the only thing, but because it is natural that we should overlook them. Bradford College brought into Bradford a business worth £300,000 a year. Bradford College brought into Bradford a man who gave an order for 1000 looms to one firm. Don't imagine that what I say regarding the growth of the student does not mean the other thing too. It means the other thing in a better way.

French Treaty

As regards the French Treaty, a telegram has been received, dated September 11th, 1919, from the authorities at Ottawa, in which it is stated that there is an understanding between the British Colonial Office, the Foreign Office and the French Government that the commercial treaty between France and Canada is to remain in existence, subject, however, to termination on three months' notice being given by either party.

Some of the Reasons for a Customs Tariff*

One of the Principal Advantages of Having a Tariff is that it Makes it Possible to Negotiate Conventional Tariffs with Other Countries—Failing this Foreign Markets Might Remain Closed Against Canadian Products

By J. K. R. BRISTOL

Manager, Tariff Department, C.M.A.

YOU have asked me to state some reasons to you for a Customs Tariff. There is the well known reason that the people in this country should be protected from the same living conditions which prevail amongst the people in some of the world's great trading nations; but this reason for a tariff is so generally recognized and accepted that I shall not dwell upon it.

Those who will grant it was wise statemanship to invite the provinces into this Dominion; to federate the Australian States, and to draw the several States to the south of us into one nation, will also grant that it is wise statemanship to bring closer in bonds of national sentiment and national trade the respective countries which constitute the British Empire. No other practical plan has yet been evolved by which that can be accomplished so readily and efficiently as by each British country, in respect to its dutiable imports, fixing lower or preferential rates of duty to specially encourage the importation of products of other British countries. That important force for the development and strengthening of national ties is thoroughly employed between the United States and her overseas Dominions—the Philippines, Hawaii, Alaska, Porto Rico, the recently acquired Danish West Indies, and even in the case of Cuba. By this means last year over 70% of the total outside trade of the Philippines, imports and exports, was with United States countries. A similar policy toward their respective Dominions is followed by France and Italy, and was followed by Germany. There must be a tariff in order that this Dominion, by granting tariff preferences for British goods, may participate in the policy of strengthening national bonds between British countries through the development and consolidation of inter-Empire trade. This is one reason for a Canadian customs tariff that will appeal strongly to Canadians.

Mutual Tariff Concessions

Without a Canadian customs tariff it would not be possible for this country to negotiate conventional tariffs; that is, to negotiate with another country for mutual tariff concessions for the furtherance of desirable trade between each. Before the war the technical arrangement of the tariffs of most of the important European countries for the purpose of restricting conventional tariff concessions to the particular country with which a treaty was negotiated, became a fine art. I have a striking illustration of how such matters were worked out by Germany, which I will read, because it indicates the extent to which tariff specialization has been developed, viz.:

"Complaints have often been aimed at what is styled 'specialization' in the customs tariff. Specialization means making the wording of a tariff item so particular in matters of description that the item, while general in phraseology, confers a benefit on only one foreign country. Thus, Germany may be bound by commercial treaties to give other countries the same concessions which it makes to any one particular country, and it may want to make a concession to one country without extending it to all others. This is done by inserting a tariff item so worded that, in effect, it applies to only one country. Take the following example of specialization:

"Tariff item 103 of the tariff of the German Customs Union provides a duty of 8 marks per 100 kilos, live weight, for cattle. Then there is a sub-item that reads: "Large, dappled mountain cattle or brown cattle, reared at a spot at least 300 meters above sea level, and which have had at least one month's grazing each year at a spot at least 800 meters above sea level, may, according to certain other specifications, be imported at rates as low as 9 marks per head. A note, explaining further, under item 103 is as follows:

"Large, dappled mountain cattle is to be understood as meaning the dappled breeds belonging to the short headed variety. Brown cattle are those breeds which belonging to the long headed variety, especially to the races of Alpine cattle—have a silver gray to dark or very dark brown hide, with lead-colored muzzle bordered with very light brown, almost white; black hoofs and horn tips; and dark tail tuft. Every country that has a 'most-favored-nation' agreement with Germany is entitled to the benefit of that item in the tariff. Belgium, the Netherlands, England and other countries might, before the war, enter into Germany all the cattle they wished under that tariff item, to the extent that they had cattle for shipment which they could certify and convince the German customs authorities were up to the specifications. Within its own limits it was a general grant; no mention is made of preferring one country over another—in that item. Naturally the German authorities could do nothing more than shrug their shoulders when it was suggested by some foreign experts that the item referred to applied, and was intended to apply, exclusively to a neighboring mountain Republic."

Negotiate Fresh Conventions

Now, we have conventional tariffs with a number of countries for the purpose of developing foreign trade to the national advantage of this country. These conventional tariffs have been denounced by France and Italy for the purpose of freeing their hands to negotiate fresh conventions and they must be revised in the near future. The lines on which the French Government plans to negotiate new conventional tariffs are explained in the Trade & Commerce Report of September 8th as follows:

"The French Government have recently denounced their commercial conventions with foreign governments, which were based upon the most favored nation principle; and in the forthcoming negotiations for the conclusion of new arrangements, the new laws, it is stated, will give the French Government power to establish French commercial relations with each foreign country on a strict basis of reciprocity—that is, only to grant to each country certain tariff concessions in return for concessions which are considered to be of an equivalent value to French commerce."

Without a customs tariff in Canada foreign countries would have no inducement to concede lower conventional tariff rates in favor of Canadian products, whereby their purchases of our products, instead of the like products from some other country, would be promoted. Foreign markets which otherwise would remain closed against Canadian products may be opened up by means of conventional tariffs. This is another reason for a Canadian customs tariff that will appeal strongly to the business sense of Canadians.

In Europe, about 1,860, by treaty with France and other principal European countries, Great Britain seemed to have inaugurated an era of free trade that would long continue; but, within twenty years, these great trading nations, except

*An address delivered before the Purchasing Agents' Association of Toronto, on September 17th, 1919.

Great Britain, were under the full sway of protective customs tariffs and have been ever since. The financial success and increased commercial strength of all these nations that adopted protective tariffs has been phenomenal.

During the past year we have seen the United Kingdom, for the avowed purpose of protecting her industries, enforce strict prohibition against imports. Also, she has inaugurated protective customs duties of 33⅓% on behalf of certain of her industries with the prospect of extending protective legislation to various other groups. Even the matter of sterling exchange imposes a barrier equal to about 15% against manufactures from those countries whose products would naturally find their way into Great Britain. In these matters Great Britain is bound to consider her own particular Empire interests. Some may believe that it is not in the particular interests of Great Britain to protect her industries to-day. A striking illustration of Britain's need for stimulating domestic production appears in a sentence uttered at Vancouver on the 27th ultimo, by Mr. Robert Dollar of the Dollar Steamship Line. Here it is:—

"Great Britain, one of the greatest producing countries in the world prior to the war, is without an outbound cargo to-day. Two of our boats left there last week in ballast, and although there are cargoes offering from America to Europe, nothing is coming our way."

In these affairs Great Britain is not like a new country such as Canada is. In Great Britain the factories and organizations already exist. Their problem is to diminish costs, secure supplies of material, and to stimulate production. In a new country like Canada, struggling for industrial development, factories and organizations have to be created where before nothing existed. To those who wish to see this country develop and prosper within the British Empire, this is another strong reason for a Canadian customs tariff.

Protective and Scientific

The customs tariffs of France, Italy, Switzerland, Germany, Austria, Russia and the Balkan States are strongly protective and highly scientific—and intricate. The schedules of the tariffs of these countries contain lengthy and minute provisions for duties on manufactured commodities and upon extensive lists of so-called raw materials. One item in the yarn schedule of the French tariff, selected at random, contains 69 lines of reading matter and 36 different rates of duty, and many of these items in the French tariff and in the tariffs of these other countries, are much longer and more intricate. On wheat the French tariff is within a fraction of 37c. per bushel. Germany's minimum tariff on wheat is 34½c. and her maximum tariff 47⅓c. per bushel. The tariff of each of these countries primarily is compiled with the object of caring for the commercial interests of the particular country which frames it. And the height of its tariff fence on behalf of each industrial group is its measure of need for fiscal guards against that nation's exploitation by its commercial rivals.

The South American countries each operate under intricate tariff provisions which apply customs duties on imports, for the purpose of producing revenue and to provide protection to their industries. The Chilean Tariff Commission in 1916, when presenting the first draft of a tariff law then being introduced, stated that it had rounded out the protective system introduced by the tariff of 1897.

"No one," the Commission declared, "has advised any deviation from this policy, which has been followed, and is followed, by the majority of the countries of the civilized world, and especially by our neighbors with whom we have close commercial relations." The customs duties of these countries reduced to averages over all imports, free and dutiable, for the latest year I have been able to obtain statistics, compare as follows: Argentine, 20.8%; Bolivia, 17.1%; Brazil, 35.9%; Chili, 19.9%; Equador, 36.6%; Paraguay, 31.1%; Peru, 21.9%; Uruguay, 36.2%; Venezuela, 46.7%.

Newfoundland, Australia, New Zealand, Japan and the United States operate under efficient protective tariffs. South Africa has announced her intention of adopting a protective tariff. The United States Congress now is dealing with legislation sanctioned by the President, designed to grant further protection to various of her industries. A general upward revision of the tariff of Australia, according to an announcement of Acting Premier Watt, is to be made during the present session of the Australian Parliament. Many of these countries, like the United States, by levying fees for consular invoices or bills of lading at the point of origin of shipments from abroad into their country, further protect their own domestic markets.

Other Nations Fenced In

In these matters each of these countries is caring for its own particular interests. We cannot in reason find fault with them for that; nevertheless it is an impressive, incontrovertible truth of the very highest importance to Canadian growth in industrial development, that to-day, throughout the world, every great trading nation fences its borders by protective tariffs against the exploitation of its markets by its commercial rivals. Under these conditions, without a tariff, in normal times, the markets of this country would be filled with the overflow from protected foreign factories. And the markets of Canadian factories would be so reduced as to raise their productive costs above a competitive basis. Canadians are a sensible people, accustomed to squarely facing and weighing facts. In face of these conditions, for Canada to tear down her tariff walls would be like one prosperous farmer in our nearby townships who suddenly would tear down his fences, admitting wayside cattle to his farm. It would be like turning on to a flat country the overflow from all the power dams of the world. So long as the great trading nations of the world carefully fence themselves about to secure their own particular commercial needs, the reason for a Canadian customs tariff as a necessary guard against the commercial exploitation of this country will be obvious to Canadians.

Suppose, now, that the customs tariff of Canada be removed. Will it be necessary for most of our manufacturing population to take to farming, lumbering and the mines? It is by no means certain that India, the Argentine and Russia will not be able to furnish the world with agricultural products cheaper than we; that Norway, Sweden and Russia will not be able to furnish the world with forest products cheaper than we. Is it not evident that capital and labor would be compelled to seek more congenial conditions in other countries which do care for their own particular interests?

Countries are Backward

Let us consider the commercial tide of this country turned back to agricultural, minor lumbering operations, and mining, by taking away the customs tariff and the inter-Empire preferences that are being built up under it. One has only to glance at the history of nations to realize that countries which depend for prosperous conditions upon the unmanufactured resources produced from agriculture, the forest and the mines, never reach a high state. As a witness to this truth take the statement in 1885 of M. de Witte, once Prime Minister of Russia, and, though M. de Witte in referring to his country described it as an "agricultural country," Russia is the equal, if not the superior of Canada in mineral and forest resources, and he had these also in mind when he uttered the following words:

"In exclusively agricultural countries, neither intensive agriculture nor an accumulation of capital is possible. A large spirit of enterprise is never found there. Technical

knowledge is rare, and, as our own experience shows, even the food of the people depends upon circumstances now of one kind, now of another, against which agriculture cannot contend. . . . The best protection that can be afforded to agriculture consists in assuring for it a market at home for its products, and remunerative wages for labor which finds no occupation on the land. Unhappily, the amount of available Russian capital is insufficient; agriculture supplies almost none at all, and hoarded capital can hardly be attracted toward industrial enterprise. Beyond all question it is better to see foreign capital flowing into Russia than to witness the importation of foreign products." (From "All the Russias," by Henry Norman, M.P.).

The Position of Ireland

Outstanding proof of the accuracy of this statement of M. de Witte is before anyone who will open his eyes to consider world conditions to-day. There are other agricultural countries which one may study. One such agricultural country has the finest climate in the world; it is noted for the excellence of its soil; it lies alongside the best market in the world; it is inhabited by a virile race, people who step to the front like the Scot in countries all over the world. Ireland is that country, yet notwithstanding all its natural advantages it is noted all over the world for its poverty, except an extremely limited section in the north where factories flourish.

Still supposing the customs tariff of Canada removed, we must remember that an essential requirement of this Dominion is revenue—very large revenue. The following statement made by the Canadian Finance Minister in his budget speech this year indicates how gravely a lowering of the tariff affects the revenue:

"The total estimated loss in revenue from the tariff reductions which we have proposed aggregates seventeen million dollars. Owing to the estimated reduction in the total volume of imports into Canada due to diminished purchasing power during the current year, we may expect that, including the loss due to the reductions now proposed, we shall sustain a total loss in customs revenue for the present fiscal year of at least twenty-five million dollars. To partially offset this loss and close the gap of the deficit of fifteen million dollars between revenue and current expenditure which it would cause, we propose a heavy increase in income taxation."

American Competition

In studying this subject of tariffs, the overshadowing commercial weight of our cousins to the south of us cannot be overlooked. That country of one hundred and ten millions, looking after its own particular interests, buys from this country of eight millions of people goods aggregating only one-half the value of the goods which it sells us. In this connection I ask you to remember the fact that this Dominion at present represents a comparatively narrow ribbon of populated country stretching from the Pacific to the Atlantic Coast for three thousand miles along the northern border of the United States. In the United States, near this border, throughout its entire length, there are powerful industrial groups, with an immense domestic market, built up and nourished by high protection. These industries everywhere can strike the Canadian ribbon by means of a short northerly freight haul. But the domestic market for Canadian producers entails the longer and more expensive east or west freight haul. Moreover, Canadian production is enhanced in cost by customs revenue duties on machinery, plant, materials and fuel for manufacturing of a class and kind not obtainable in Canada. Shall this country remove those duties and level its tariff walls, whilst other countries sedulously maintain theirs out of a feeling of care for their own particular interests? Is it thus that the hundreds of millions of dollars that this country has invested in transcontinental railways, and terminal elevators, are to be brought to naught? Is it for such foreign exploitation of our markets that the five hundred United States branch factories, established in Canada, which employ 80,000 people here, are to be rendered valueless?

Valued as U.S. Goods

There is an important aid to our national development, that is little thought of, that would be swept away by a removal of our tariff. It is a provision in the Customs Act which provides in effect that goods imported into the United States and re-shipped thence to Canada shall be valued and rated for duty as United States goods. This provision prevents United States jobbers from importing goods into their warehouses from Europe, Africa, Asia and South America, and afterwards entering the same at our customs houses at the value at place of shipment in the country of origin. Without this provision United States wholesalers and jobbers could ship such goods into Canada from their warehouses, ex bond, by paying duty on the same value and at the same rate as would apply in respect to like goods imported by Canadian wholesalers direct from the country of origin. Thus, without this provision, United States wholesalers and jobbers would practically control the wholesale business of this country. You can realize in one flash of thought how that would draw business away from Canadian to United States ports; freight from our railways to United States railways; banking from Canadian to United States banks. Lest it be charged that I am magnifying the perils to this country, without tariff protection, let me read to you the views of two most eminent United States citizens in regard to a Canadian tariff proposal which fell considerably short of free trade. These gentlemen wrote their views during the progress of the reciprocity negotiations of 1911, and they were published by ex-President Taft in Boston on the 25th day of April, 1912:

Ex-President Taft to the late ex-President Roosevelt: "The amount of Canadian products we would take would produce a current of business between Western Canada and the United States. It would transfer all their important business to Chicago and New York, with the bank credits and everything else, and it would increase greatly the demand of Canada for our manufactures. I see this is an argument made against reciprocity in Canada, and I think it is a good one."

From the late ex-President Roosevelt's reply to ex-President Taft: "It seems to me that what you propose to do with Canada is admirable from every standpoint. I firmly believe in free trade with Canada for both economic and political reasons."

Investment at Stake

The factories of this Dominion represent an invested capital (1917) of more than two and three-quarter billions, having an annual output worth more than three billions, and furnish employment to about 700,000 people. A conservative estimate would give two million people obtaining a livelihood from our factories.

There are various groups of commodities, necessary to our national life, which without our present industrial development, at various stages of the war, could not have been obtained elsewhere.

Shall we forget what this industrial development achieved during the war in serving the national life in this Dominion, and in turning out absolutely essential manufactures for the Mother Country?

If we have honor and pride in this young country; if we have confidence in the wonderful possibilities of her future, if we believe in the development of a real Canadian spirit and genius, these are the strongest reasons for approving a Canadian customs tariff that will maintain and develop a national life.

The B.A. in Business—Is He a Genuine Success?

University Grads. Rally to the Support of Higher Education and Claim a Very Real Advantage for the Man with a Varsity Training—Some Notable Examples of Success that Lend Weight to the Argument

By GRANT BROWN

"I DON'T want any cigarette-smoking, college dude around my plant, telling me how I ought to run my business." That was what the average employer of fifteen years ago was apt to say if you suggested to him that there might be an opening for a university graduate in his factory. But the last decade has brought about a remarkable change. College men have been steadily winning both recognition for themselves and respect for their training. Nor has their success in business been confined to any one field. We find one university graduate at the head of the greatest railway system in the world; a second directs a great publishing corporation; a third manages a trust company; others are leaders in the packing industry, and so on.

Prominence in Industry

For the present, however, I am most interested in those graduates who have entered the manufacturing field, though even here it is necessary to make limitations. Not a few university men have attained prominence in Canadian industry by making law a stepping-stone to business success. These are so numerous and so important that they would almost require a separate article. The present sketch is more particularly concerned, therefore, with the man who takes an arts course and afterwards enters the industrial field in Canada.

Twenty years ago the church, the law, medicine, and teaching absorbed the bulk of graduating classes; in recent years the proportion who enter industrial corporations has steadily increased, and the last decade or so can point to some notable successes of university men in Canadian industry.

T. A. Russell was one of the pioneers of the movement, and that fact in itself goes to show how recent the drift into business is, for it was only twenty years ago that "Tommy Russell" was prone to lead the chorus which proclaimed:

> "Here we are,
> Right in line,
> Yell like h—ll,
> For Ninety-Nine."

First a scholarship man, later a fellow in political science, then a most successful secretary of the Canadian Manufacturers Association, next manager of an apparently moribund bicycle company—which, under his treatment, became a very lively corpse—then one of those able and daring manufacturers who gave Canada such an enviable record for the production of munitions in the Empire's sore need, now general manager of the Willys-Overland Company of Canada and President of the C.N.E.—not to mention other activities. T. A. Russell has made for himself a name to compare with both in industrial and university circles.

T. F. M. Stewart is another graduate of the University of Toronto who has won outstanding success in Canadian industry. As an undergraduate he foreshadowed later activities by showing marked ability in the University politics of the day. In business he found his opportunity as secretary of the C.M.A.; next he became Reform organizer for Toronto; after a short period of political work, he became manager of the Point Anne Quarries, Limited. In recent years he has acquired many additional interests, varying all the way from the manufacture of munitions and the building of ships to directorships in a trust company and two departmental stores.

There are two of several careers which might be chosen to illustrate the versatility of university men in business and the success many of them have obtained or are obtaining (for one must remember that the movement from the universities to the ranks of industry is still comparatively new). Some other names may serve to show the extent of the movement. Mr. George Henderson, general manager of Brandram-Henderson, Limited, is a graduate of Dalhousie University. Dr. W. W. White, of St. John, and Mr. E. Percival Burchill, of Nelson, N.B., are both graduates of the University of New Brunswick, who have attained prominence in Canadian industry. Sir H. B. Ames is a college graduate who has gained distinction both in industry and in politics. Among graduates of the University of Toronto who have won success in manufacturing, besides those already mentioned, one might refer to Mr. A. L. McCredie, of the Canadian Flax Mills, Limited, Mr. Jas. I. McLean of the Harris Abattoir Co., and Mr. H. D. Scully of the Russell Motor Car Co., not to mention the many prominent graduates who have entered the business world through the avenue of law. Instances enough have been given to show that university graduates have in many cases attained positions of leadership in the industrial world. It remains to examine the connection between university training and success.

Is university training of practical value in business? Is it better to grow up in a business or to go to college and enter business afterwards? If the youth, destined for business, goes to college, what course of study will profit him most? To obtain light on these and similar questions, I recently asked for suggestions from some representative university graduates who have been conspicuously successful in Canadian industry. The replies were decidedly interesting. A prominent N.B. manufacturer differs from most graduates in saying that his university course was not of direct financial benefit. However, he adds: "It has been of considerable value to me in my public life. It has contributed very largely to the pleasure of life from a social standpoint and rendered much of my work, particularly in connection with my public duties, easier and more effective. I would advise everyone who can afford it to get a university education."

A Prominent Graduate of Queen's University

A prominent graduate of Queen's University, Mr. Geo. C. Mackenzie, president and general manager of the Electric Steel and Metals Company, Limited, to question 1 (as to the value of university training for the business man), responds emphatically. "Yes, most assuredly. Because it has given me an opportunity of knowing and making friends with many educated men. It broadened my viewpoint of life and taught me the value of reading and of making an effort to understand and appreciate the opinions of other men." To question 2 he replies: "I do advise Canadian manufacturers to send their sons to a university, whether they intend ultimately to go into business or to enter a professional career." As to the most useful course, Mr. Mackenzie writes: "I would

consider the following of first importance—History, political economy, and also a modern business course, such as has been recently included in the curriculum of one or more of our Canadian universities. These are, of course, the foundations only of the superstructure which must be built to meet the future requirements of the student."

Mr. G. B. Chadrey, manager of the Brantford works of the Massey-Harris Co., Ltd., writes an interesting letter:

"When I first started in business, it seemed to me that my university course was a positive disadvantage. I found that I was placed in the category of theorists, and that workmen of long experience were suspicious and inclined to resent a little the presence of anyone who had college training. This prejudice is bound to exist and can only be overcome by the steady reliable work of the graduate himself. In many businesses the handicap extends somewhat beyond the relationship with the workmen. It extends also to the management in those concerns where the management has been drawn from uneducated men. There is less of the feeling abroad to-day than there was when I began, partly because of the advertising that the whole question of education has been receiving and partly because of the advent of more progressive men in the management of many concerns.

"You ask in what ways I have found university training to be of benefit. In replying to this, I would point out that in starting by a specific training in a line which has a point of contact with business, an opportunity is afforded for service in this particular capacity, and through it, in allied and broader capacities. In my own case, my university training was, as you know, scientific. Through this I was able to take up first a comparatively limited line of work which was broadened from time to time. In recent years I have found a very positive advantage in the university training, in that is has secured a confidence in the minds of some of the most progressive men in our business.

"Another advantage which is very evident is the fact that the university course opens many doors which to the graduate seem naturally to be opened, but which, as a matter of fact, would otherwise be closed. I refer particularly to the relationship which it establishes with many other educated people, classmates at one time or merely college friends, who, as time goes on, come to occupy positions of importance in different lines of life. The main advantage, however, I think to be the fundamental one, namely, that the man of education is enabled on the average, through his training, to approach more varied lines of activity than he could attempt to do without the training he has received. In other words, the training is of value, and the better such training has been used by the individual, the better the individual is fitted to form judgments and to take an active part in business life.

"In replying to your second question, I would certainly advise manufacturers to send their sons to a university, if those sons are intended eventually to go into business. It would appear to me that this is preeminently the time when we should have in business the best trained minds available. There has never been a time when business has been so disturbed. We are in the midst of a tremendous upheaval, the consequences of which we cannot see. It is much more difficult than it was some years ago to keep on the right track and to keep alignment with the current of industrial events." . . . "In such circumstances we need not only men of character and the power of leadership, but men whose powers have been reinforced by such training as can only be obtained through education.

"It is, of course, impossible to state which subjects are of most value, but I would like to place a little emphasis upon the need of the study of economics and modern industrial conditions." . . . "We need far more than we have of general economic knowledge. Indeed, I think, that a good deal should be done, in fact must be done, in our public schools to instruct the youth along the lines of industrial knowledge. So far as the course the man is to take, I really do not think that it makes very much difference. If it has some specific point of contact with business life there may be some advantage, as I have already indicated, but much depends upon the sort of work which the man expects to follow when he enters business. A general course at a university may be an excellent training, but I believe it should always be coupled with a fair study of economic conditions."



T. A. Russell

An outstanding example of the University graduate who has made a success in business. Mr. Russell is a graduate of the University of Toronto and is now president and general manager of Willys-Overland of Canada, Limited

Another graduate, who is rapidly forging ahead in the business world, points out very closely what may be expected of a university course:

"I do not know that one should claim that the university course in Arts is in every case of direct value in a business career. However, the training one gets in the university, in almost any Arts course, should increase one's facility in making a study of a variety of problems, not particularly related to each other, and to that extent I think a university course is of direct benefit in business. It should make it easy to turn from one subject (whether the study of it is completed or not) to another, and develop the power of concentration on the most pressing problems of the moment. I think it can be fairly said that this faculty of concentration and the ability to switch from one subject to the other, is most noticeable among the university men that I have come in contact with in business life. A university course also seems to develop the ability to investigate a new problem, and the university man seems to be able to find his way about in a new field a little better than the average man who has not had the prolonged course of training that the university gives.

"In reply to the second question, I answer strongly in the affirmative (*i.e.*, manufacturers should give their sons university training). It does not follow that a university training will enable a manufacturer's son or anyone else's son to make a material success more quickly than one who has not had a university training. In fact, the money-making instinct will not, perhaps, be particularly developed by a university course, but the ability to handle the work in which one is engaged, should be developed.

"In reply to the third question, I think any course requiring a good deal of investigating work, particularly in sociological, political, and economic subjects, and the preparation of the results in reports or essays, makes a pretty sound training. I think the political science course, with, per-

haps, the featuring of more or less immediate economic or social problems, or the old English and History course, are about as suitable as any for a man thinking of going into business.

"Generally speaking, it seems to me that a university training should enable one to plan one's work to better advantage, because some sense of relative values should be attained."

One of the most valuable letters comes from a very able university graduate who has already won for himself an important place in Canadian industry:

"I have quite strong views that Canadian manufacturers ought to send their sons who intend to go into business to a university. Two courses are open when they do so. One is to take a course along the lines of the business in which they are interested, such as a mechanical or electrical course, if the business is along the mechanical or electrical lines. I think this is the preferable course if the son shows adaptability to mechanical subjects. If not, I think it better that he should take a general university course in the subjects in which he is proficient.

"The benefits from a technical course are obvious. I feel, however, that the benefits of an Arts course are also assured, because it is the training the man gets rather than the direct knowledge, that he finds of so much use afterwards.

"I think there is only one point of danger in connection with boys going through university courses, and that is, they may feel too old to start in at junior work after graduation. They must recognize, however, that this is an almost indispensable part of their training and that they should not be afraid to make a start even though the position is junior. The outlook they have, and the training they have received, will nearly always give them the advantage necessary for rapid promotion afterwards."

University Women in Industry

If a university course is an advantage to the young man who goes into business, one would expect young women to profit similarly. And this is the case. One of the most recent developments in business is the opening up of opportunities to women graduates to act as employment supervisors, welfare workers, efficiency experts, etc. A woman graduate, who has made an outstanding success in this type of work, writes as follows:

"I feel strongly that there is a big place in Canadian industry for University women, if employers of labor, especially female labor, are going to be awake to the signs of the times and follow the example of advanced manufacturers in Great Britain and the United States.

"In this age of specialization, the handling of people has come to be one of the last fields to be specialized. In a great many, indeed in most factories, much more thought is given to the care and selection of machinery than to that of the people who can make or mar the machine's power. It is to change this attitude that I believe a university woman can come in—men, too, of course, for where hundreds of men are employed men are needed, but where as in this mill the employees are two-thirds women, a woman can do more than a man, because she understands feminine tears and temperaments better. This job, as you know, is called Employment Management and with it, if it is well thought out, go all sorts of schemes to make working conditions good and as attractive as anything can be under the present industrial system. You know the plans which can be tried—supervision of general conditions, hours, rates, ventilation, cleanliness, rest rooms, lunch-rooms, first-aid and medical attention, recreation, libraries, training classes, etc. College helps for all these things, it seems to me. You learn there to dig things out and how to keep up with new ideas—and they are constantly being offered in this new game in industry. You learn, or should learn, through fairly wide contact with people to judge and select men justly, keenly (here I might mention that a very good training is fraternity pushing); of course you are often fooled in people, as your labor turnover unfortunately proves.

"If you contemplate a job in industry, you are wise to take all the economics and history you can get—some understanding of economics is essential, and the more the better as it saves time.

"I shall end as I began—none of this is new, all is sketchy. It does convey the idea that a college woman should be more many-sided and able to take hold of this particular problem of industrial relations from more angles than any other type of woman. The technical knowledge of a business is really easily got; any person can pick up a fairly good working knowledge in a short time. Personally I would just as soon tackle candy, sales, or laundry work as cotton."

An American Opinion

Some remarks of Charles M. Schwab (quoted from an article in the American Magazine) bear on the general topic. The American steel magnate says: "Whatever may have been true in the past, there is no doubt that to-day industrial conditions favor the college man. Old conditions are disappearing; science is dethroning chance. Business is conducted on so vast a scale that the broadening effects of higher education, gained through proper application, write a large figure." . . . . "Higher education has its chance later, when the college boy has mastered all the minor details of the business. Then, if he went to college with serious purpose, and studied hard and systematically, he has the advantage of a thoroughly trained mind to tackle larger problems, a mind which should be broader and more flexible because of its greater powers of imagination and logical reasoning."

To sum up, then, on this phase of the subject. In the light of the evidence, university training for the prospective business man is not a waste of time. On the contrary, it is distinctly to be desired. Other things being equal, the youth who goes into business at an early age is likely to be passed in the race by the university graduate. The college man has less training in the details of business but he will have more in the connection of cause and effect and in fundamental principles. His outlook should be wider.

What is Proper Course

It is true, of course, that in Canadian industry are to be found many successful men who have not had a university training, and among them some whose broad vision and generous culture move many a university graduate to envy. But that is not an argument against university training. These men have won through in spite of handicaps, not because of them. Their determination and ability have given them 'at a great price' what the university man of the same calibre may obtain with far less friction.

Agreed, then, that we send the boy to a university. What shall he study there? Large doses of economics, history, modern languages, perhaps the scientific course most directly related to the industry the student has in view—these, in the light of the experience of successful graduates, seem most likely to produce the desired result, *viz.*, a trained intelligence prepared to grapple with each problem as it arises, but already equipped with some special knowledge of the principles on which business is based.

So much for the past and the present. What of the future? Will industry draw more and more largely from the universities? That seems to be the trend of things at present, and not a few universities are taking active steps to make their connexion with the business world more intimate. An excellent illustration is the recent announcement by a Canadian

university of a four weeks' special course in employment management. What promises to be an important factor in the establishment of closer relations between the universities and business is the organization of a Bureau of Appointments by the University of Toronto. The idea has already been tried out both in England, where Cambridge has a highly successful Bureau of Appointments in operation, and in the United States at Harvard and Yale and many other universities. The plan is to gain the co-operation of employers who are likely to have openings for graduates and to keep in touch with graduates who are looking for jobs. At present the Bureau of Appointments of the University of Toronto is chiefly occupied with the placing of returned men and women—ex-students of course—in business positions. Later, it is hoped, its scope will be extended to include all members of the university who intend to go into business.

Obviously such organizations can do much to promote closer relations between universities and the business world. Graduates will find it easier to estimate the opportunities available. Moreover, a bureau of appointments can render a very real service to the employer who keeps in touch with it. The right sort of man is often hard to find. The bureau with a considerable constituency to draw from will aid in the search; and the university should be able from its record of students to give the prospective employer a very fair idea of their character and capacity. Professor R. M. MacIver, head of the Social Service Department of the University of Toronto, sees great possibilities in the plan. "The rarest of talents seem to me to be those involved in organization and enterprise. In the ordinary routine of things, men naturally rise to positions without necessarily possessing these talents. I think it possible in some departments of university work to select men of this type. Four years work with groups of young men give very definite ideas of their qualities, character, and powers of initiative. We can select a few with considerable confidence."

This latest attempt to bring the university and business into closer touch will be watched with interest and sympathy. Its success will mean much both for higher education and for Canadian industry.

Recent Activities of Prairie Provinces Division

By G. E. CARPENTER
Secretary, Prairie Provinces, Division, C.M.A.

AT its meeting on September 9th, the Winnipeg Trades and Labor Council again refused to nominate persons for appointment upon the Industrial Tribunal authorized by an Act of the Legislature at its last session, for the purpose of investigating and reporting upon matters affecting labor and with reference to disputes between workers and employers. The Winnipeg Branch of the Association nominated its representatives for appointment and it was hoped that the Trades and Labor Council would view the matter in a different light and change the attitude that had been adopted towards the Government's efforts to bring about better relations between employees and employers, but apparently the members of the Council are not as yet willing to do this. However, it is possible that with the result of the National Industrial Conference before them they may decide to nominate representatives for appointment on the Industrial Tribunal in the near future.

Demurrage During Strike

Up to the present time it has been found impossible to reach any satisfactory conclusion with the representatives of the railways regarding assessments of car rental during the general strike, and it looks as though reference would have to be made to the Board of Railway Commissioners in a friendly way in order to dispose of this matter.

Members will be pleased to learn that the penalty system for delay to railway cartage teams referred to last month has, according to advice received from the cartage companies, materially increased their efficiency. A continuation of the co-operation of all members in Winnipeg is requested in the prompt handling of cartage teams so that the maximum service may be obtained therefrom.

Trade Enquiries

An arrangement has been made with the Department of Trade and Commerce, Ottawa, whereby the names of persons with respect to trade enquiries appearing in the weekly bulletin of the Department can be furnished direct from the Winnipeg office. Members are invited to avail themselves of this service.

Applications for membership have been received from the following firms:—

Globelite Battery Company, Winnipeg.
Giddings Limited, (additional), Winnipeg.
O-Ribo Manufacturing Company, (additional), Winnipeg.
Burgess Batteries Limited, Winnipeg.
The Dyson Vinegar Company, Winnipeg.
Central Tools and Forgings Limited, Winnipeg.

Paper Exports Increase

July Figures Recently Issued Show that Newsprint Exported Was Worth $4,000,000

Canadian exports of paper and paper products of all kinds for July show an increase in value of $1,007,984, as compared with those in July, 1918, although the value of the pulp and pulpwood exported during the month shows a decrease, that of pulpwood alone falling off by $1,019,357. The details show:

	July, 1918.	July, 1919.
Paper, etc.	$3,631,241	$4,639,225
Pulp, chem.	2,754,010	2,654,333
Pulp, mech.	459,868	436,604
	$6,845,119	$7,730,162
Pulpwood	2,253,884	1,234,527
Total	$9,099,003	$8,964,669

The quantity of newsprint paper, the industry's chief staple, exported during the month amounted to 57,323 tons, valued at $4,064,303.

For the first four months of the fiscal year exports of paper and paper products show an advance in value of $3,045,299, as compared with the corresponding period in 1918, and $6,321,373, as compared with 1917. There was a falling off of $5,225,530 in the value of chemical pulp exported during the period as compared with the 1918 returns and of $991,454 as compared with those of 1917. Mechanical pulp also fell off slightly while the value of the pulpwood exported in 1919 was about half that for the same period in 1918.

Catalogues and Booklets

Bawden Pumps

The Bawden Machine Co., Limited, of Toronto, have issued a well-illustrated booklet describing the Bawden line of pumps. By means of special sectional drawings, the principle of the pumps is thoroughly explained. The various designs and series of pumps are likewise illustrated, with full description and specifications. The booklet contains 42 pages and is full of information, which will be of value to those concerned with the power problem in factories.

Electric Arc Welding

The Canadian Westinghouse Company, Limited, Hamilton, present a useful publication of 48 pages, describing in detail the application of electric arc welding. During the last few years, they point out, an unusually rapid advance has been made in the process and it has now become recognized as an art very essential to a number of industries. The field of electric arc welding is unlimited and practically every industry employing iron and steel, or other alloys, can utilize it to advantage. All of which makes the description contained in the present booklet of value. There are copious illustrations, which add to the effectiveness of the treatise.

Manufacturing Facilities Offered

A handsomely designed booklet intended to illustrate the facilities afforded by the Leaside Engineering Company, Limited, for the handling of general engineering work on a large scale, is being circulated by the company. There are five companies associated with the organization, including the Leaside Engineering Company, the Leaside Munition Company, the St. Catharines Steel & Metal Company, the Laurentian Power Company, the Ferro-Silicon plant and the Canada Wire & Cable Company. The various plants are effectively illustrated and their equipment briefly described.

Industrial Development Farmers' Best Friend

(*Continued from page* 56)

idea. The community, in visualizing industrial development, had visualized only smoking chimneys and roaring machinery.

The rolling mill dismally failed. The community, having lost part of its money on the rolling mill enterprise, devoted the balance to the development of the stone. To-day that same stone industry in that community employs more men and turns out more product than was even promised in the prospectus of the rolling mill enterprise. If your industrial development is controlled by the laws of natural selection; if you undertake the things that are nearest at hand in point of raw materials and markets, your efforts will merit and receive a measure of success that will not be disappointing.

I have said your population will increase. An especially instructive comparison of immigration and population statistics has been recently compiled by Mr. Watson Griffin, in a book entitled "Canada, the Country of the 20th Century." In this treatise Mr. Griffin predicts that before the end of the present century Canada will have a population of over 75,000,000 souls.

It is further pointed out that your foreign trade to-day is greater than was that of the United States when our population was 50,000,000.

An interesting comparison might be made with reference to population and industrial production between your three provinces here, the so-called prairie provinces of Canada, and the Northwest territory in the United States, including the States of Ohio, Indiana, Illinois, Michigan and Wisconsin. I am informed the population of your prairie provinces in 1916 was 1,698,220, and the value of your manufactured products in 1916 was $105,000,000. In 1860 the population of the States composing the Northwest territory was 6,919,000, and the total value of the manufactured products was $281,-418,000. The value of manufactured products therefore to each inhabitant in the States composing the Northwest territory was, in 1860, $40; while the value of manufactured products in the prairie provinces under your last census is $61. This is especially interesting in view of the fact that the agricultural production of the territory I have named in the United States was in 1860 much larger in proportion to population than was the value of manufactured products.

The advent of quick transportation, quick communication, improved machinery, and equipment in both agriculture and manufacture, should and will increase the rate of your progress to a degree I should not dare to predict.

These, then, are some of your problems, and these are some of the victories which will be yours for the solution and yours for the winning.

Change in Control of Industry

Business of John Lysaght, Limited, Bristol, Passes Under Control of Welsh Financiers

Controlling interest in the business of John Lysaght, Limited, Bristol, England, has been secured by Mr. H. Seymour Berry, of Merthyr Tydvil, Wales, and his associates, Viscountess Rhondda and Mr. D. R. Llewellyn, known as the "Coal King" in South Wales.

The remarkable success of the Lysaght business, which has been described as one of the romances of British industry, had attracted the attention of Mr. Berry, who had for several months been negotiating for the purchase of the stock held by the heirs of the late Mr. John Lysaght. The deal was finally carried through, and Mr. Berry becomes chairman of the company, Mr. Llewellyn, vice-chairman, with Viscountess Rhondda and two other new directors representing the Welsh interests. The management, however, will be unchanged, as Messrs. S. R. Lysaght, the managing-director, W. R. Lysaght, manager of the steel works and rolling mills, D. C. Lysaght and H. G. Hill, who have for years directed the company's affairs, will remain on the board.

The cost of securing control is said to have been approximately £5,000,000, although the total capitalization was only £1,000,000. The actual value of the properties, however, is immensely greater, the cost of the blast furnaces and steel works alone having been over £2,000,000, nearly all paid for out of accrued profits.

The company has always paid special attention to the export trade, especially within the Empire, having branch houses in Australia, New Zealand, Canada, South Africa and elsewhere. In Australia, where they have a specially large trade, they have been erecting their own iron and steel works in line with the Commonwealth's policy of developing its own mineral resources. While they have not yet manufactured in Canada, they have had a branch of the company established for many years past, in charge of A. C. Leslie & Co., Limited, Montreal, who have been agents for the company's products for over fifty years. Canadian users of sheets will, therefore, be specially interested in this new development, and there is every reason to believe that the future policy of the company will include an active campaign in Canada, whether they should decide to manufacture here or to continue shipping the sheets made in Great Britain.

New Customs Rulings

The Tariff Department reports that the principal Customs rulings and Board of Customs decisions issued by the Customs Department since the annual meeting are as follows:

One multiple three-drum inspecting spooler machine for fabric manufacture, ruled to be dutiable under item 468.

One 7-inch two-feed improve automatic sweater machine ruled to be dutiable under item 468.

Silver alloy ingot, per sample, for use for dental purposes, hitherto admitted free as sterling silver, ruled to be dutiable by the Board of Customs under item 711.

Jute cloth, paper lined, for the manufacture of bags, ruled by Ottawa to be dutiable under item 538 at 25 per cent.

Machine for rolling and measuring cloth, ruled to be dutiable under item 468.

One shearing machine and one traverse grinder, ruled to be dutiable under item 468.

Salt blocks, medicated, per sample, ruled to be dutiable under tariff item 220 at 25 per cent.

In connection with the recent tariff changes an amendment was reported to the law which admits crude cotton seed oil free of duty when for refining purposes.

Needles for Tricot and Milanese weaving or knitting machines, being of a class or kind not made in Canada, ruled to be dutiable under tariff item 468, at 10 per cent. ad valorem. Under this item foreign goods are subject to the war tariff, but British goods are not.

Velour hoods, per sample, ruled to be dutiable at 35 per cent. general tariff, under item 626.

Diarsenol, Bordet's Bacillus, Ampsalvs and Neo-Diarsenol (vaccines), ruled to be exempt from the war stamp tax.

Glaziers' diamonds, ruling obtained that they may be exported for repair conditional on return on payment of duty on the value of the repairs.

Ruling that certain hat braids, per samples, are free of duty.

Ruling that strawberry pulp, per sample, is dutiable under item 106, same as jam.

Pulley lagging, per sample, for covering the outside of pulleys, ruled to be dutiable as coated cloth under item 562.

Oil cans for agricultural implements, ruled to be dutiable according to material.

Unexposed moving picture films, ruled to be entitled to entry under item 696, when imported on orders from societies or institutions entitled to enter goods under this item.

Spraying machines, ruled to be dutiable under item 448 as being agricultural implements, n.op.

Oakite Composition No. 1, from the Oakley Chemical Co., New York, essentially a soap cream, and ruled to be dutiable under tariff item 228.

Raybestos brake lining, with brass wires therein, dutiable under tariff item 352.

Benzol, xylol, and solvent naphtha, ruled to be dutiable under tariff item 711.

National powdered wax for dancing floors from Candy & Company, Chicago, ruled to be dutiable under tariff item 252.

Old English floor wax from the A. S. Boyle Co., Cincinnati, Ohio, ruled to be dutiable under tariff item 252.

Essenkay tire filler from the Essenkay Products Co., Chicago, ruled to be dutiable under tariff item 711, and when tire setters accompany such shipments, setters are to be separately rated.

Bituminized paper or fibre conduit for carrying telephone wire, etc., ruled to be dutiable under tariff item 199, in accordance with the Board of Customs decision of 12th August, 1919, ruling creosoted fir duct or conduit under tariff item 506. Ruling on this material in Appraiser's Bulletin No. 327, page 11, should therefore be cancelled.

Silver alloy in powdered form, per sample, composed of silver, tin, copper and zinc, declared to be dutiable under tariff item 711.

Wire, under tariff item 403*a*, when imported for use in the manufacture of wire ropes, declared that such rope should be composed of wire in strands, and the strands woven or twisted together.

Tariff status of locomotive and car wheel tires of steel, partly machined, declared that locomotive or car wheel tires of steel, wholly or partly machined are dutiable under tariff items 393 or 454.

Creeper belts, if malleable sprocket chain and link belting chain or steel, for the manufacture of farm tractors, declared to be dutiable under tariff item 411, in effect from 6th June.

Transmission belts used to connect engines with separators, etc., declared to be dutiable as belting under tariff items 609 and 610—in effect from 6th June.

Belts (other than transmission belts, connecting engine with separator, etc.), imported for repairs of articles enumerated under item 447, declared to be dutiable under tariff item 447, in effect from 6th June.

Miller feeders, for Gordon presses and folding machines declared to be dutiable under tariff item 453.

Garters and hose supporters declared to be dutiable according to material.

Finished parts of garters and hose supporters declared to be dutiable according to material.

Steam road rollers declared to be dutiable under tariff item 448.

Slate slabs, per sample, imported to be re-sized, milled and finished for electrical and other purposes, declared to be dutiable under tariff item 310.

Slugs and leads in strips, to be used in printing, declared to be dutiable under tariff item 340.

Creosoted fir duct or conduit, for carrying underground telephone wires, declared to be dutiable under tariff item 506.

Hickok automatic paper feeders, for use in connection with bookbinders' ruling machines, declared to be dutiable under tariff item 453.

Rings and novelties, per samples, for placing on candy sticks, or in popcorn or prize packages, declared that such rings and novelties of base metal only, for the above purposes, dutiable as toys under tariff item 624.

"Oxone," dry, per sample, manufactured by Roessler and Hasslacher Chemical Co., New York, declared dutiable under tariff item 220.

Automobile bodies (metal) unfinished, per illustration and description, declared to be dutiable under tariff item 454.

Order-in-Council for the extension of the preferential tariff on tea, to include teas now in excise bond. Where tax has been paid on such teas entered ex-excise bond on or after the 6th day of June, 1919, a refund of three cents per pound may be applied for.

Referring to Order-in-Council of March 26th, 1918, which provides:

> "That all machinery, plant and material of whatsoever nature or kind required in the construction of the necessary mill, power facilities, steel making equipment, etc., to produce the steel plates covered by this proposal, shall be admitted into Canada free of all Customs duties."

In view of these provisions the Customs Department will grant a drawback of duty on materials entering into the manufacture of articles sold by Canadian manufacturers to the Dominion Steel Company, to be used in connection with the plate mill referred to.

Transportation Items

Service to Roumania

Space for Commercial Shipments Will be Available on Boats Sailing in November

The Canadian Trade Commission, who have been handling certain shipments for various manufacturers consigned to the Roumanian Government, advise that there may be space available on vessels chartered by the Roumanian Government to handle the Government orders mentioned, which can be utilized for commercial shipments. This being so, we have been requested to make this announcement so that our members may, if they wish to do so, take advantage of this space for any commercial business which they desire to ship to that country. The sailings on which this space may be available will be in November and January, the November sailing from Montreal, and the January sailing from Halifax, ocean rates to be on about the same basis as those in effect from New York. The boats will touch at Galatz, Roumania.

Any interested members desiring to use this service should get in touch with the Shipping Department of the Canadian Trade Commission at Ottawa.

Vancouver to Australasian Ports

Canadian Government Merchant Marine to Put Boat in Service from Vancouver to Australia and New Zealand Early in December

The *Canadian Raider* will be placed on the berth at Vancouver to load for Australasian ports about the 1st of December. It is suggested that members in a position to supply cargo for this sailing should get in touch with Mr. A. Brostedt, Assistant General Freight Agent, Canadian National Railways, Vancouver, or with Mr. D. O. Wood, Traffic Manager, Export and Import Department, C.N.R., Royal Bank Building, Toronto. These gentlemen will be pleased to arrange for space and supply any other information including rates.

It is understood that the rates will probably be in the neighborhood of $40.00 per 1,000 sq. ft. for lumber, and $20.00 per ton, weight or measurement ship's option, for general merchandise. All rates are subject to change without notice until confirmed.

Steamship Sailings from Montreal

Ships Scheduled to Sail for Various Points During Early Part of October

The following useful information regarding the sailings of steamships from the port of Montreal to various trans-Atlantic ports is furnished in a bulletin issued by the Canadian Pacific Railway. It will doubtless prove of service to exporters:—

To Liverpool.

Scandinavian	C.P.O.S. Line	A'bt Sep. 23
Metagama	C.P.O.S. Line	A'bt Sep. 24
Canadian Miller	Can. Govt. Merchant Marine, Ltd.	Ab't Sep. 27
Canadian Ranger	Can. Govt. Merchant Marine, Ltd.	Ab't Sep. 30
Megantic	White Star-Dominion Line	Ab't Sep. 30
Melita	C.P.O.S. Line	A'bt Oct. 1
Canadian Seigneur	Can. Govt. Merchant Marine, Ltd.	Ab't Oct. 11
Minnedosa	C.P.O.S. Line	Ab't Oct. 16

To London.

War Peridot	C.P.O.S.-Furness Line (C.P.O.S.)	Ab't Sep. 23
Mendip Range	C.P.O.S.-Furness Line (Furness)	Ab't Sep. 24
Montezuma	C.P.O.S.-Furness Line (C.P.O.S.)	Ab't Sep. 24
Dunbridge	C.P.O.S.-Furness Line (C.P.O.S.)	Ab't Oct. 4
Vardulia	Cunard Line	Ab't Oct. 9
Tunisian	C.P.O.S. Line	Ab't Oct. 10
Willaston	Cunard Line	Ab't Oct. 14
Vellavia	Cunard Line	Ab't Oct. 21

To Antwerp.

Glenspean	C.P.O.S. Furness Line (Furness)	Ab't Sep. 25
War Beryl	C.P.O.S. Furness Line (C.P.O.S.)	Ab't Oct. 24

To Glasgow.

Cabotia	Anchor-Don. Line	Ab't Sep. 23
Corsican	C.P.O.S. Line	Ab't Sep. 28
Cassandra	Anchor-Don. Line	Ab't Sep. 30
Montcalm	C.P.O.S. Line	Ab't Oct. 8

To Avonmouth Dock (Bristol).

Cornishman	Dominion Line	Ab't Oct. 2
Dominion	Dominion Line	Ab't Oct. 14
Monmouth	C.P.O.S. Line	Ab't Oct. 14
Pretorian	C.P.O.S. Line	Ab't Oct. 15
Virgilia	Cunard Line	Ab't Oct. 16
Copenhagen	Cunard Line	Ab't Oct. 19

To Manchester.

Manchester Brigade	Manchester Liners	Ab't Sep. 25
Manchester Corporation	Manchester Liners	Ab't Oct. 2
Manchester Hero	Manchester Liners	Ab't Oct. 18

To Hull.

Maplemore	Furness Line	Ab't Oct. 2

To Leith.

Cairnvalona	Thomson Line	Ab't Oct. 7
Cairndhu	Thomson Line	Ab't Oct. 10

To Dublin.

Carrigan Head	Head Line	Ab't Oct. 5
Ramore Head	Head Line	Ab't Oct. 27

To Belfast.

Ballygally Head	Head Line	Ab't Oct. 8
Fanad Head	Head Line	Ab't Oct. 18

To St. Nazaire (France).

Alston	Can.-French Line	Ab't Oct. 15

To Havre (France).

Honduras	Canadian-Trans-Atlantique Line	Ab't Sept. 24
Calafornie	Canadian-Trans-Atlantique Line	Ab't Oct. 1
Lord Dufferin	Canadian-Trans-Atlantique Line	Ab't Oct. 10
Kamarina	Canadian-Trans-Atlantique Line	Ab't Oct. 15

To Christiania and Bergen (Norway).

Ranenfjord	Norwegian-Amer. (C.P.O.S. Agents).	Ab'tNov. 1

To Buenos Aires and Monte Video.

*Canadian Pioneer	Can. Govt. Merchant Marine, Ltd.	Ab't Sep. 25
*Canadian Settler	Can. Govt. Merchant Marine, Ltd.	Ab't Oct. 15
Clan McWilliam	Houston Lines	Ab't Oct. 25

*Buenos Aires only.

To South Africa.

Cape Town, Port Elizabeth, East London, Durban and Delagoa Bay.

New Texas	Elder-Dempster Line	Ab't Oct. 5

To Australasian Ports.

Melbourne, Sydney, Auckland, Wellington, Lyttleton and Dunedin (Port Chalmers).

Kaikoura	New Zealand Shipping Co.	Ab't Sep. 27

To Barbados, Trinidad and Kingston.

Canadian Recruit	Can. Govt. Merchant Marine, Ltd.	Ab't Sep. 30

To Havana (Cuba).

Canadian Sailor	Can. Govt. Merchant Marine, Ltd.	Ab't Oct. 7

To St. John's (Newfoundland).

Canadian Volunteer	Can. Govt. Merchant Marine, Ltd.	Ab't Sep. 30
Canadian Adventurer	Can. Govt. Merchant Marine, Ltd.	Ab't Oct. 15

New Steamship Service

Canadian Pacific Ocean Service Announces a Line to Scandinavian Ports

The Canadian Pacific Ocean Services, Limited, have recently announced that they had been appointed agents for the Norwegian-American Steamship Line, which intends to inaugurate a service of one sailing per month from Montreal for the balance of the season of navigation, and one sailing per month from St. John for the winter, to be followed next summer by two sailings per month. The first steamer will sail from Montreal about the end of October, the name of this boat being the *Renenfjord*, sailing direct to Christiania, Norway, and probably to Bergen and Stavanger of the same country.

Interested members having any cargo to offer, or being in a position to use this service, should get in touch with the representatives of the Canadian Pacific Ocean Services, Lim-

ited, Mr. J. R. Clancy, General Agent, C.P.R. Building, Toronto, or Mr. G. D. Robinson, European Freight Agent, Board of Trade Building, Montreal. Shipments for Gothenberg, Danzig and Helsingford can also be handled via this service.

Condensed Advertising

SOUTH AMERICAN TRADE

A gentleman with eleven years' experience in South America, being well acquainted with conditions in all the republics, and having a thorough knowledge of language, business customs, legal usage, tariffs, transportation, etc., offers his services to Canadian manufacturers to place their products in those markets in a trip which he contemplates taking at the end of October. Box 4600, INDUSTRIAL CANADA.

TRADE WITH WEST INDIES

Opportunity to develop Trade with West Indies, etc. Business man leaving shortly for Bermuda, British West Indies, and South America, seeks agencies from Canadian manufacturers. Real pusher, determined to promote trade of the "Made-in-Canada" products. Best of references furnished. Apply Box 4400 INDUSTRIAL CANADA.

GRADUATE REQUIRES POSITION

Position required as Industrial Nurse in large manufacturing plant. Graduate of Toronto General Hospital with six years' experience. Box 4500 INDUSTRIAL CANADA.

MARINE INSURANCE

EXPORT IMPORT

INCLUDING LOSS BY MINES AND STRIKES

Geo. McMurrich Sons, Limited

MARINE DEPARTMENT

22 Toronto Street - - TORONTO

REPRESENTING

Fireman's Fund Insurance Company
Indemnity Mutual Marine Assurance Co., Limited, of England
The Marine Insurance Company Limited, of London, England
Phoenix Assurance Company Limited, of London, England
The Thames and Mersey Marine Insurance Co., Limited
The Union Marine Insurance Company Limited, of Liverpool
The Yorkshire Insurance Company Limited, of York, England

Certificates Made Payable in any City in the World

COPPER SPELTER LEAD

Tadanac Brand

PRODUCED IN CANADA

BY

The Consolidated Mining and Smelting Co., of Canada, Limited

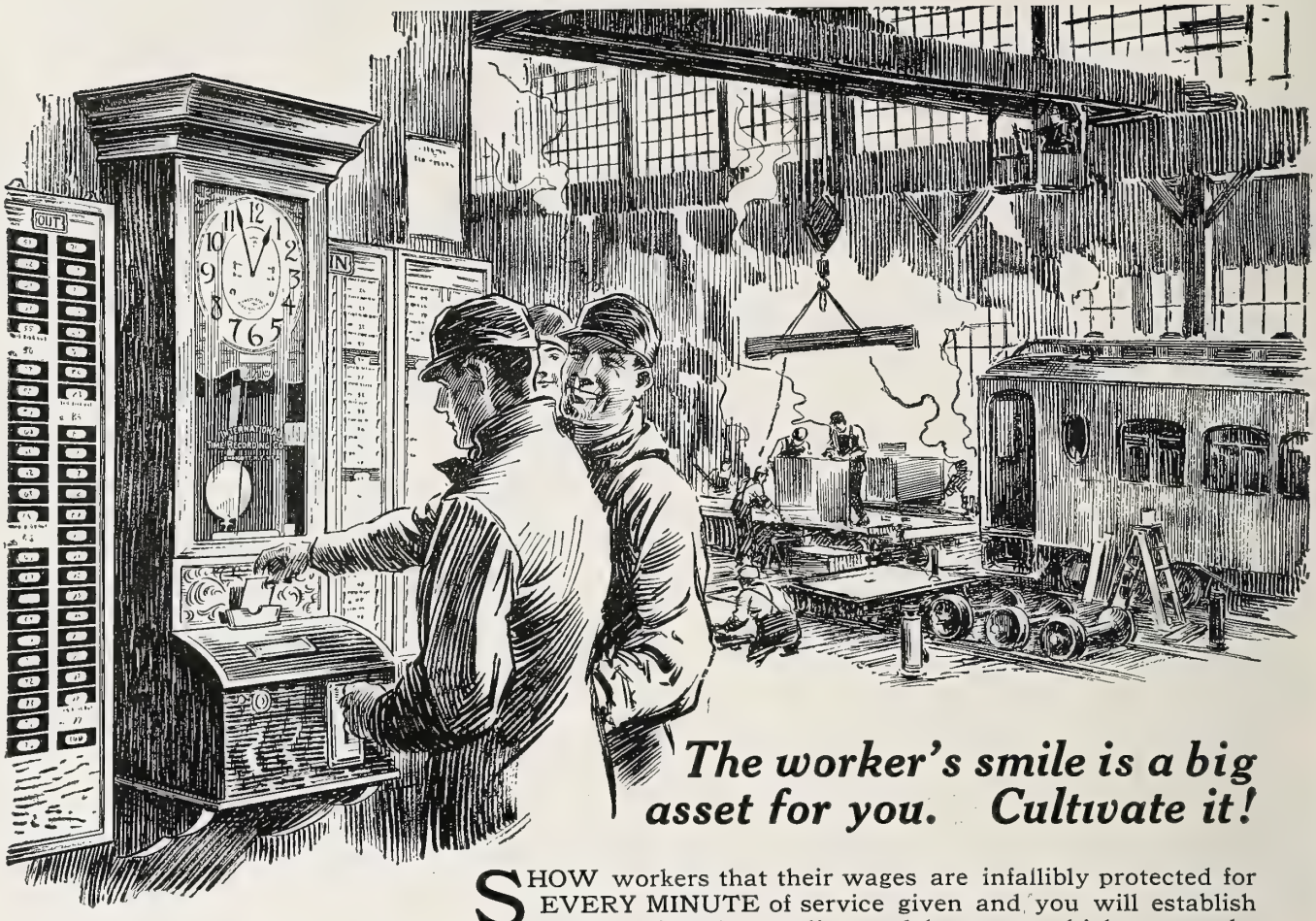
TRAIL, British Columbia

COPPER—Electrolytic Ingot, Bar, Slab and Cake

SPELTER—High-Grade Electrolytic Zinc, Brass Special and Prime Western

PIG LEAD—Chemical, Corroding and Common

General Sales Office: Drummond Bldg., Montreal
Ontario Sales Office: C.P.R. Bldg., Toronto



The worker's smile is a big asset for you. Cultivate it!

SHOW workers that their wages are infallibly protected for EVERY MINUTE of service given and you will establish a basis of understanding and harmony which can not be attained in any other way.

Such a positive guarantee of payroll accuracy and satisfaction is made possible by

INTERNATIONAL TIME RECORDERS

The confident smile of the worker who records his time on an International is a genuine asset for you. It means freedom from payroll disputes. It stands for close, profitable co-operation between employees and management. It is the mark of a satisfied, capable producer.

All manually-controlled timekeeping systems are subject to uncertainties. They depend for success upon unerring human attention---*and we humans are not unerring.*

Internationals, on the other hand, are *automatic.* They leave nothing to chance. They keep all necessary payroll data, correct to-the-minute, clearly printed for quick, errorless computation.

Internationals are made in 260 models, either electrically-operated or spring-driven, and adapted to all lines of business. May we show you how YOUR requirements can be filled perfectly?

Other INTERNATIONAL *Products*

In addition to the Card Time Recorder, shown in the accompanying illustration, the International Business Machines Company, Limited, manufactures

- Card Time Recorders
- Dial Time Recorders
- Job Recording Devices
- Electric and Self-Winding Master Clocks
- Autograph Recorders
- Secondary Clocks
- Time Stamps
- Key Recorders
- Program Devices
- Recording Door Locks
- And a full line of kindred devices.

We will gladly send full data concerning any of the above instruments on request

International Business Machines Co., Limited

Head Office and Factory:
300 Campbell Ave., Toronto

FRANK E. MUTTON
Vice-Pres. and Gen'l Mgr.

Also at
Montreal, Winnipeg, Vancouver

(Also Makers of Dayton Computing Scales and Hollerith Electric Tabulators)

"..... not worth the paper they are written on"

We refer to Production Cost Figures that depend on pencil records.

What pencil records?

The time-cards on job work that your workmen or foreman now fill out in pencil.

Why aren't they good in pencil?

Because pencil records can be changed and a working-time balance can be forced.

And, as we have said, if your factory production costs are "leaky" the whole question of your costs, your overhead, etc., is "up in the air."

The International Job Recorder absolutely corrects this condition. It enforces a printed, machine-made, unchangeable, infallibly accurate record of the time spent on any job.

It does many other profitable things for its users. Let us tell you more about them.



International Job Recorder
"Made in Canada"

International Business Machines Co. Limited

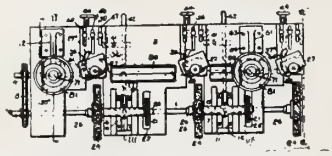
FRANK E. MUTTON
Vice-President and General Manager

Head Office and Factory:
300 Campbell Ave., Toronto

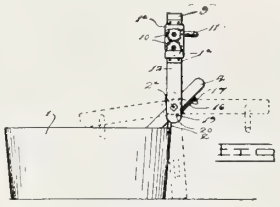
Also at - Montreal
Winnipeg Vancouver

(Also makers of Dayton Computing Scales and Hollerith Electric Tabulators)

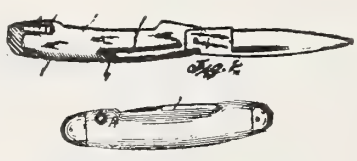
PATENTS FOR SALE



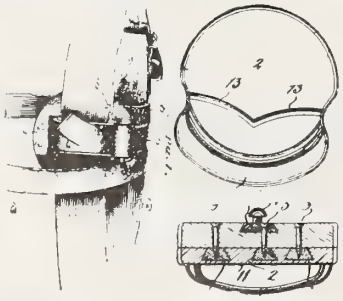
PIPE POLISHING MACHINE, whereby the polishing mechanisms are automatically shifted to operative position by the pipe during its travel, increasing the output as well as reducing the cost of production, and is provided with means for the continuous feed of the pipe. For further particulars apply to the inventor, E. C. Straub, R. 905, 7th Ave., Beaver Falls, Pa., U.S.A., who offers pat. rights in the Dom. for sale.



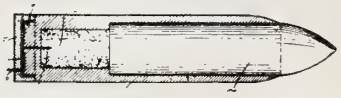
WRINGER SUPPORT, provided with a novel bracket for holding the wringer so that it may be swung backward or forward as desired and having a device for locking the wringer in wringing position. Pat. rights in the Dom. are for sale by Andrew J. Steel, Box 473, Needles, California, U.S.A.



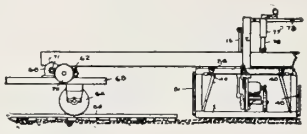
POCKET KNIFE, of durable construction, attractive design; may be cheaply manufactured, and should prove a good seller. The inventor, Mr. John T. Peters, Tilting, Newfoundland, is open to negotiation for disposal of his pat. rights. John T. Peters, Tilting, Newfoundland.



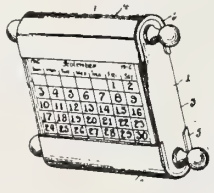
TRUSS PADS, of simple construction, light and cheap to manufacture, adaptable and comfortable. Consists of analogous material strongly reinforced by aluminum or other suitable metal or alloy, with improved means for strongly and comfortably mounting it on the body. For further particulars apply to the inventor, Mr. James W. Embree, Box 236, Manhattan, Kansas, U.S.A., who offers patent rights for sale.



SHELL of high velocity, having a variable range; is simple in construction and provided with means whereby its range can be automatically regulated. Parties interested should address communications to Mr. J. M. Nurmi, 882 Putnam Ave., Detroit, Michigan, U.S.A., who is open to arrange for the disposal of his interest in same.



JIG SAW, a strong, durable and efficient saw. It is easily manipulated and may be placed on the market at a minimum cost in view of its simplicity construction. The inventor, James DuLaney, 159 Melrose Avenue North, Seattle, Wash., U.S.A., is desirous of getting in touch with a reliable manufacturer with a view to disposing of his interest in this invention or arranging manufacture of same.



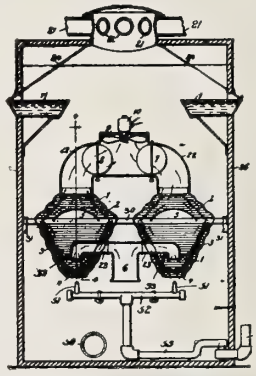
ROLL CALENDAR, a simple, attractive and ingenious calendar, may be cheaply manufactured and placed on the market at a minimum cost, with reasonable profit. Patent rights are for sale by Isaac W. Townsend, Lake View Hotel, Port Arthur, Texas, U.S.A.



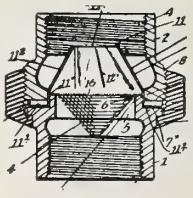
NEEDLES, for use in connection with the sewing of Leather, Rubber, Belting, canvas or the like. May be cheaply manufactured and is superior to any that has yet been placed on the market. It eliminates the difficulties now found in the use of the present device of this character, is simple and convenient. Patent rights are for sale by Martin Larson, Glendon, Alta., Canada.



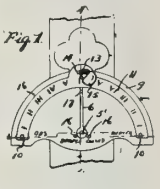
MARGINAL STRIP FOR BOOTS, composed of strong corrugated paper, which is attached to the outside edge of the vamp, tip or foxing with zigzag or over-edge stitching, thus increasing the area to the desired size. The patent rights in the Dominion are for sale by Hiram Holden, 561 East Spruce Street, Manchester, N. H., U.S.A.



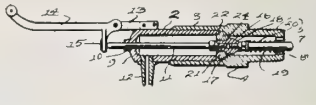
NEW MEANS AND SYSTEM OF HEATING, invented by Mr. Terry, is pronounced the Wonder Heater of today. Provides absolutely free heating in the home, is based on strictly scientific methods. Interested parties should address all communications to the inventor, Mr. A. Terry, 74 Grenada Terrace, Springfield, Mass., U.S.A., who is open to negotiations for the disposal of his interests or rights to manufacture his invention in the Dominion.



GAS CONTROLLER AND PURIFIER, to be interposed in the supply pipe between the meter and burner, which will increase the velocity of the gas flow and draw in a greater supply of air into the gas through the burner at the point of consumption and at the same time will eliminate gas hammer in the pipe due to sudden checking or stopping of the flow. Patent rights in the Dominion are for sale by Harold E. Thatcher, 119 Front St., Sarnia, Ont., Canada.

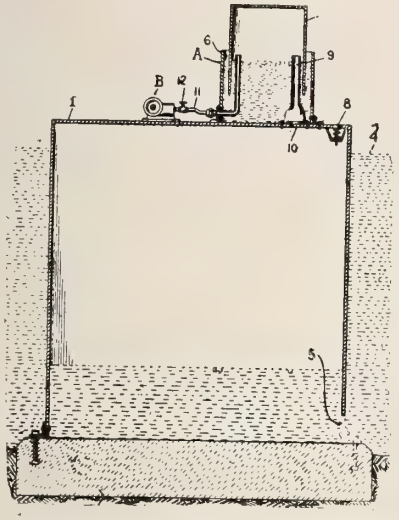


LOCK DAMPER, a device to eliminate the difficulty experienced in finding out the exact position of the damper in a pipe used in connection with stoves, furnaces, etc., by the use of this ingenious device the position of the damper may be at any time ascertained, no chance of overdraft or vibration displacing the position of same, provides a convenient indicator, safety device and fuel saver. Patent rights in the Dominion are for sale by Madison Hamm, Box 218, Glen Cove, Nassau County, Brookside, L.I., N.Y., U.S.A.

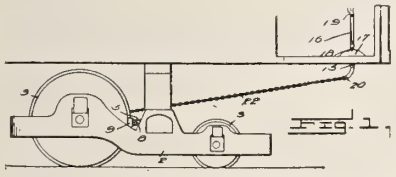


VALVE, a simple, durable and efficient device, may be manufactured and sold at comparatively low cost. Consists of a valve seating having beveled valve engaging surfaces or faces upon each side whereby the valve seat may be readily reversed when the valve engaging surface has become worn. For further particulars apply to Mr. V. A. Lang, 406 Willard St., Houston, Texas, U.S.A., who offers patent rights in the Dominion for sale.

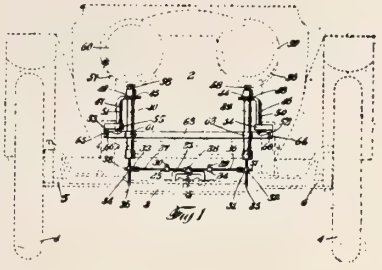
PATENTS FOR SALE



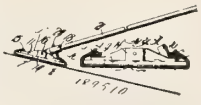
AIR COMPRESSOR, providing a simple and powerful means for compressing air; provides for free and unlimited power and eliminates the cost of fuel; is entirely automatic in operation and cost of up-keep is very small. Patent rights in the Dominion are for sale by F. E. Renouf, Bowsman River, Man., Canada.



CAR BRAKE, particularly adapted for use on trolley cars, easily applied, and when in this normal position is in locking engagement with the wheels of the car, the movement of the controlling lever by the motorman serves the purpose of rendering the brake inoperative. Patent rights in the Dominion are for sale by Mr. Geo. W. Leach, P.O. Box 203, Pittsboro, N.C., U.S.A.

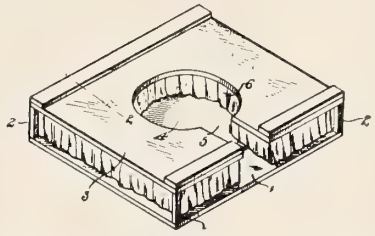


DIRIGIBLE LAMP, so arranged that the part of the roadway in front of the automobile, while going around curves, will be illuminated. May be thrown into and out of operation when desired. Patent rights in the Dominion are for sale by S. J. Welch, Hotel Welch, Troy, Pennsylvania, U.S.A.

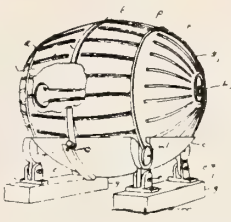


MOP, for cleaning and polishing surfaces with a minimum of labor and fatigue, obviates the arduous task of scrubbing and polishing by hand, and will give the efficient effect of hand labor. May be used with water for washing floors, with oil for polishing, or simply as a duster. The inventor is desirous of disposing of patent rights on his invention in the Dominion or to arrange with a reliable manufacturer for manufacture of same. Inquiries should be addressed to Messrs. McInerney, McInerney & Williams, 89 Queen St., Melbourne, Australia, or Harold C. Shipman & Co., Ottawa, Ont., Canada.

PATENTS
Trade Marks, Design Patents, Copyrights



HOVER, by means of which the brooding capacity of a hen is increased to any desired extent, and enables one hen to care for a large brood of chicks. The inventor, Mr. Fred F. Hughes, 2078 Oak St., Hillsboro, Ore., U.S.A., offers patent rights in the Dominion for sale.



HOG OILER, efficient, economical and practical device, will kill lice, mange and do away with diseases and pests which hinder the thriving of hogs. Patent rights in the Dominion are for sale by Mr. C. S. Andrews, care of Council Bluffs Remedy Co., Council Bluffs, Iowa, U.S.A.



HAME FASTENER, adapted to lie in position and will hold up the martingale while the neck-yoke is taken off, thus saving the time required to pass the breast strap through the martingale. The inventor, Mr. Wilfred Curry, Balgonie, Saskatchewan, Canada, offers Patent rights in the Dominion for sale.

Manufacturers interested in patents should have their names on our Service Dept. mailing list.

"CANADA'S LEADING PATENT ATTORNEYS"

Ask for our Booklet on Patents, "Patent Protection"

HAROLD C. SHIPMAN & CO.

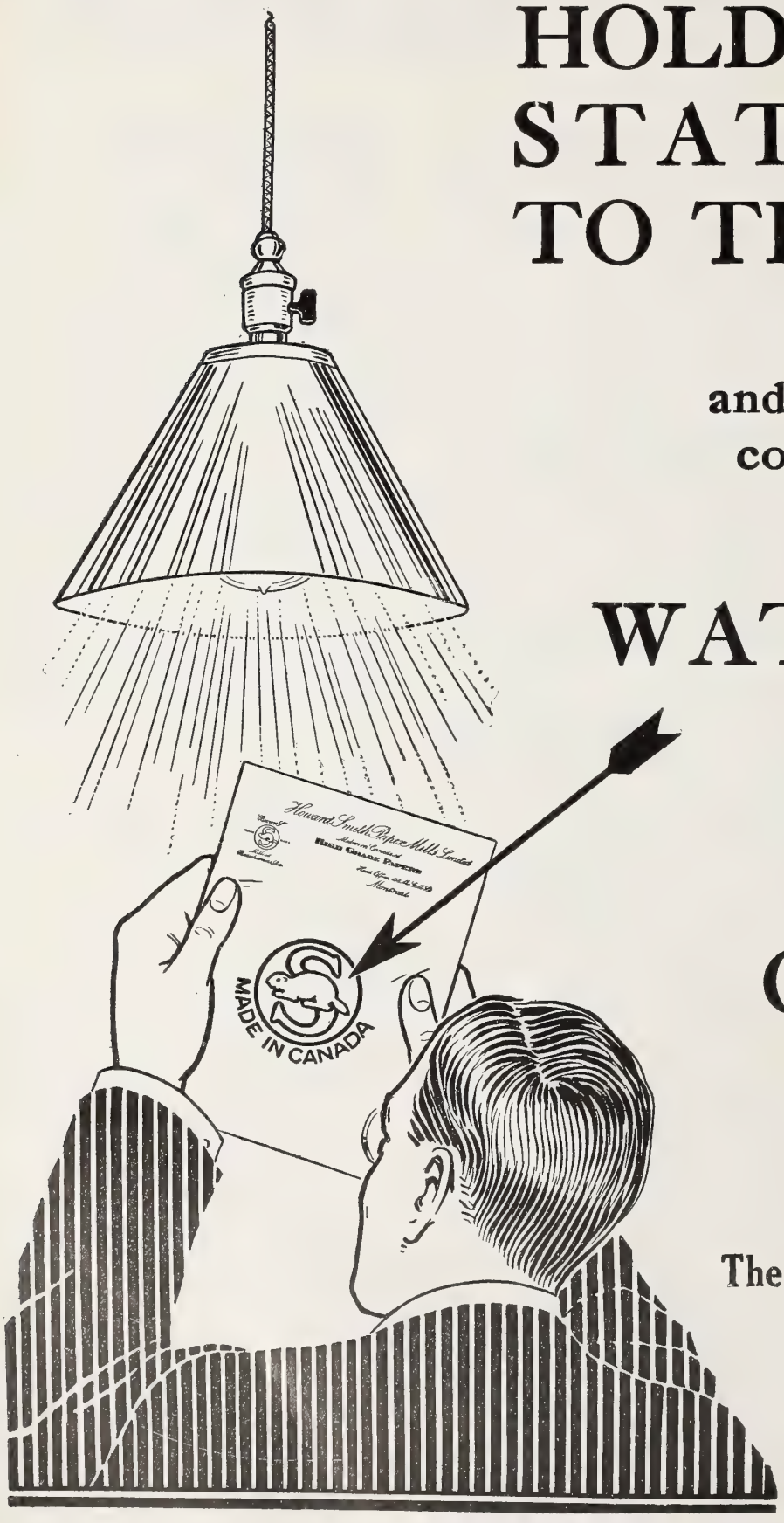
PATENTS
TRADE-MARKS. DESIGNS. COPYRIGHTS.

Branch Office Washington, D.C.

Associates All Foreign Countries

OTTAWA - CANADA

HOLD UP YOUR STATIONERY TO THE LIGHT



and see that it contains this

WATERMARK

It is your guarantee for

QUALITY

-Made-in-Canada—

BY

The Howard Smith Paper Mills
LIMITED

138 McGill St., MONTREAL

MILLS AT
BEAUHARNOIS, QUE. and
CRABTREE MILLS, QUE.

OFFICE AND FINANCE

The Necessity of Knowing Manufacturing Costs

Unless the Exact Cost of Each Department is Known, Waste of Materials, Inefficient Help, or Careless Supervision in Buying Will Not be Reported

By ROLAND H. ZINN
Chief, Cost Accounting Bureau, Tanners' Council, New York

(From "American Industries")

SINCE the beginning of the great war, which has just been brought to a conclusion, the entire industrial world has been awakened to the necessity of increased efficiency in all directions.

Probably not least among these has been the interest and impetus which has been given to the establishment of real practical systems of cost finding.

During the war, it was the writer's privilege to represent the Government in many investigations, attempting to ascertain the cost of producing various commodities. It was apparent that in many cases little attention had been given this subject by manufacturers, with a consequent inability to assist the administration in a time of utmost need, without first having an extensive and costly audit made. For this reason the Government has since done a great deal to encourage and assist manufacturers in establishing accurate and correct cost accounting methods.

In times past, cost finding has been greatly feared, and probably justly so, for it is a fact that in many instances efficiency experts have evolved systems so intricate and detailed that the operation of the same required so much "red tape" as to make it not only burdensome but entirely worthless. On the other hand, a cost system by which merely an average cost of production or an approximate cost is arrived at, is likewise inadequate.

What Cost Data Should Show

A cost finding system should, in all cases, be so constructed that it is in absolute control with the general accounts of the company, otherwise the accuracy of the costs are questionable. It might then be asked, "What value are the figures if they are only accurate, what do they mean, what information do they give to those who wish to use them?" Cost data should show an executive not only that he is making or losing money, but the articles on which, or the department in which, he is making a profit or showing a loss. Accurate costs therefore are fundamentally and essentially necessary to all manufacturing efficiency.

One value therefore, of cost accounting is to secure the final and complete cost of any given article of production, which can safely be used as a basis for selling the same, with a definite knowledge that a profit will be realized. There should, however, be a further purpose, to give those in authority a comprehensive idea of the inner operations, where improvements should be made, where waste and excess can be curtailed. Unless the exact cost of each department is known, the department which needs special attention in order to reduce expenses by waste of materials, inefficient help, careless supervision or waste in buying will not be known. It is true, however, that the more the detail can be eliminated and the fewer reports necessary, the more effective the operation of the system, provided that the reports do show the busy executive at a glance all the information necessary in which he is interested and which he needs in order to increase the efficiency of his organization, which naturally will increase his profits. Such a cost system, one which has the tendency of increasing profits, is never and should never be feared.

It has often been said by manufacturers, that their business is unique or different and while cost systems are all right they could not be adapted to their business. It makes no difference what the character of the business is, the cost of production can be secured; however, it is unquestionably true that some cases are more difficult than others.

Installation an Investment

The expense of installing such a system and the continued operation of the same has also been an objection. This expense is but a fractional part of the actual saving which a system should develop, and I have heard it said after an installation has been made, that "they would never again be without it." The installation really becomes an actual investment which of itself returns more than any other investment of like amount, and usually appreciates with age. It is also often stated, by conscientious objectors, that they know what their costs are, so why install expensive methods to obtain the same. It will be found in most cases of that kind, that their costs are based on estimates made by foremen or superintendents. Estimates are invariably treacherous and unsafe, especially during a period when labor and materials fluctuate as greatly as they have been. Cost being the sum total of all labor, material and overhead expense necessary to produce a given article, it is a definite amount and indicates the exact point between profit and loss. You cannot, therefore, change a cost by merely changing figures. It is first necessary to go to the source and correct the conditions which made it before the cost changes.

We are at the present time in a period of high prices, when the margins between cost and selling price are large enough, so that from a fraction of a cent, to even a dollar, in some cases does not mean much, but when this margin again grows closer, and both domestic and foreign competition becomes keener, the closest analysis and most efficient management will be necessary to reduce the cost to the small fraction of a cent. And how are you going to do this unless you know where and how?

Data Should be Accurate

The operation of a cost system may virtually be termed a science, which is governed by fixed laws and rules, not only for securing the data, but for using it. To sum it all up, the data secured should be accurate and connected with the general books; it should be made adaptable to all local conditions and simple, consistent with the information required

BANK OF MONTREAL

Established over 100 Years

Capital Paid Up - - $20,000,000
Rest - - - $20,000,000
Undivided Profits, $1,661,614
Total Assets - $489,271,197

BOARD OF DIRECTORS:

Sir Vincent Meredith, Bart., President
Sir Charles Gordon, G.B.E., Vice-President
R. B. Angus, Esq. Lt.-Col. Molson, M.C.
Lord Shaughnessy K.C.V.O. Harold Kennedy, Esq.
C. R. Hosmer, Esq. H. W. Beauclerk, Esq.
H. R. Drummond, Esq. G. B. Fraser, Esq.
D. Forbes Angus, Esq. Colonel Henry Cockshutt
Wm. McMaster, Esq. J. H. Ashdown, Esq.
E. W. Beatty, Esq., K.C.

Head Office: MONTREAL

Sir Frederick Williams-Taylor, General Manager

Branches and Agencies — Throughout Canada and Newfoundland. At London, England, and at Mexico City. In Paris, Bank of Montreal, (France). In the United States - New York, Chicago, Spokane. San Francisco - British American Bank (owned and controlled by Bank of Montreal).

A GENERAL BANKING BUSINESS TRANSACTED

ESTABLISHED 1875

IMPERIAL BANK
OF CANADA

CAPITAL PAID UP $7,000,000 RESERVE FUND $7,500,000

PELEG HOWLAND, President

The Imperial Bank offers exceptional banking facilities to Canadian Manufacturers. Branches throughout Canada. Agents and correspondents in all the world centres.

Collections made at all points in Canada and in foreign centres.

Drafts—Money Orders and Letters of Credit issued, available throughout the world.

Exchange—Domestic and Foreign Exchange bought and sold.

Government and Municipal Securities dealt in at all branches.

Savings received at all branches—interest credited half yearly at current rate.

Accounts of Merchants and Manufacturers solicited.

HEAD OFFICE - TORONTO

without being burdensome. To install such cost accounting methods requires time and a thorough analysis and study of the conditions, and cannot be taken theoretically from any published volume on the subject.

What is cost? As defined, it is the equivalent paid for anything—expenditure, outlay, etc. The cost to manufacture, therefore, is composed of the three distinct elements, labor, materials and overhead or burden expense. The problem, of course, is to ascertain the amount of each of these elements applicable to the various articles produced. It is essential to secure the cost of each element separately so that in cases of necessity the executive can see just where any trouble may lie and correct it immediately.

Averaging of costs will not accomplish the results in obtaining cost of production, especially not, where a number of different articles are produced. While such an average, taken at the end of any period might show the profit or loss on the entire business during that period, yet it may be true that during the period there may have been some articles on which there was actually a loss, and these losses were carried by the articles which produced profits. But there would be no information to show which was which. Furthermore, if it became necessary to quote a very close price on a large contract the average cost would form merely a guess, whereas an actual cost would give exact data whereon any quotation made would realize the exact profit anticipated. I have often heard it said, "We sell only at the market price and cannot get any more than the market, why go to the trouble of getting costs." It is unquestionably true that if an actual cost, which is above the market at which the manufacturer is forced to sell, is continually before him, sooner or later he will either use every effort to reduce his cost or stop manufacturing that article..

Distribution of Overhead

The distribution of the overhead or burden expense is a widely discussed subject. Included therein, there must be all indirect charges, fixed charges, maintenance and miscellaneous expense, other than labor and materials. To distribute this properly, requires study and analysis of conditions. The method used should be illustrative, as far as possible, of the actual expense incident to the production of any given article manufactured. General average percentages should be avoided.

The reports or data accumulated should be concise and not voluminous, in fact a graphic chart showing the actual rising or falling of any element of cost of any given article or department, frequently shows more conclusively the actual conditions than would masses of figures.

As for the leather industry, the officers of the Tanners' Council of the United States of America, the national association of the tanners in this country, immediately at the close of the war, appreciated the benefits which would result in not only figuring costs accurately, but figuring them in a uniform way as far as possible throughout the industry.

With this purpose in mind they created the Cost Accounting Bureau of the Tanners' Council, to act in a constructive as well as consulting capacity for the industry.

The tanning industry is divided principally into eleven major groups, viz., sole and belting; harness; bag and strap; side, calf and kip upper, Eastern and Western divisions; upholstery; glazed kid; sheep and lamb; patent, glove and general utilities leathers. Each group has been organized into groups of accountants who are employed by the various companies making the respective kinds of leather. Periodically, meetings are held in Chicago, New York and Boston, as well as Philadelphia, with the head of the bureau, and the best methods are recommended and thoroughly discussed, with

an ultimate view of establishing, in detail, one method which could be adopted as the uniform method in each group. Thus far, many fundamentals have been decided upon, but naturally, a work such as this is of such great magnitude that it requires much time and study in which to meet and overcome all of the obstacles, many of which are met in all cost accounting work. There are, however, probably more complex situations arising, in obtaining accurate cost of tanning than in most other lines of manufacture. The membership has been most co-operative in this work and are practically unanimous in the thought that once the uniformity is established much good will result.

Much Better Competition

It is obvious that uniformity in the method of arriving at cost of tanning leather or uniformity in any other industry, would undoubtedly result in much better competition, because each manufacturer will at all times know that each and every competitor will be figuring his costs on the same basis and be including therein every item which is really a part thereof. It remains then only for each one to reduce his expense in his own plant to the minimum. By such methods the greatest efficiency is instituted in the entire plant, materials used, which are often very expensive, are no longer wasted and the employees throughout are educated to better and more economical methods and practices. Such practice will unquestionably sooner or later place any industry on a better and more stable basis.

There are, of course, many other detail phases, too numerous to mention here, which will be and should be analyzed and studied, such as the taking of proper inventories, especially of stock in process, the operation of storerooms, the depreciation of plant and equipment, etc., all of which form an important part in the cost of production.

Paying Wages Through Banks

Money is Deposited to Credit of the Worker Who May Pay it Out by Check

Not long ago the manager of a big industrial plant in England saw several hundred of his employees crowded around the paymaster's window, drawing their wages. It struck him that this was not only a waste of their time, but that it was an undignified scramble for the money they had earned. He would not have liked to get his own salary that way. It seemed as though a more modern method of paying wages might be contrived.

Going back to his office, he worked out a plan that combines dignity, time saving and thrift. This has been approved by the company, and is now optional with employees, many of whom are taking advantage of it.

Instead of asking employees to congregate around the pay window and wait their turn, they may open a checking account at any bank selected by themselves, and the company deposits wages each week to the employee's credit, in his own bank. The employee then pays household bills by check, draws out whatever cash is needed, and leaves the balance in the bank as savings. The company makes a further contribution to his account, representing about five per cent. interest, on all the money which he is able to save.

Before the war, a dollar belonging to an employee and a dollar belonging to the employer were seldom on speaking

THE ROYAL BANK OF CANADA

Capital Paid Up	$14,000,000
Reserve and Undivided Profits	15,500,000
Total Assets	427,000,000

HEAD OFFICE - MONTREAL

BOARD OF DIRECTORS:

Sir Herbert S. HOLT, Pres. E. L. PEASE, Vice-Pres.
E. F. B. JOHNSTON, K.C., 2nd Vice-Pres.

Jas. Redmond	C. S. Wilcox
G. R. Crowe	A. E. Dyment
D. K. Elliott	C. E. Neill
Hon. W. H. Thorne	Sir Mortimer B. Davis
Hugh Paton	G. H. Duggan
Wm. Robertson	John T. Ross
A. J. Brown, K.C.	R. MacD. Paterson
W. J. Sheppard	W. H. McWilliams

OFFICERS

E. L. Pease, Man. Director, C. E. Neill, Gen. Manager; F. J. Sherman, Asst. Gen.-Manager; M. W. Wilson, Supt. of Branches.

Branches in every Province of the Dominion of Canada and in **Newfoundland**; in **Havana** and throughout **Cuba**, Porto Rico, Dominican Republic, Costa Rica, and Venezuela; **Antigua**, St. John's; **Bahamas**, Nassau; **Barbados**, Bridgetown, **Dominica**, Roseau; **Grenada**, St. George's; **Jamaica**, Kingston; **Montserrat**, Plymouth; **Nevis**, Charlestown; **St. Kitt's**, Basseterre; **Trinidad**, Port of Spain and San Fernando; **British Guiana**, Georgetown, New Amsterdam and Rose Hall (Corentyne); **British Honduras**, Belize.

SPAIN, Barcelona—Plaza de Cataluna 6.
LONDON, England, OFFICE—Princes St., E.C.
NEW YORK AGENCY—Cor. William and Cedar Sts.
(Savings Department at all Branches)

Banking Service

YOUR banking requirements may be entrusted to this Bank with every confidence that careful and efficient service will be rendered. Our facilities are entirely at your disposal.

THE CANADIAN BANK OF COMMERCE

PAID-UP CAPITAL - - -	$15,000,000
RESERVE FUND - - -	$15,000,000

A SOUND INVESTMENT

Profits depend on correct merchandising and sales policies. If your profits are not right, take advantage of our wide experience by having a specialist in your line make a survey of your business

Thorne, Mulholland, Howson & McPherson

INDUSTRIAL ADVISORS

Bank of Hamilton Building Toronto, Ont.

RIORDON SALES COMPANY, LIMITED

MONTREAL

Offer for Sale

Sulphite Fibre Wood Pulp

BLEACHED AND UNBLEACHED

FOR PAPER MILLS

IMPERVIOUS SPRUCE SHEATHING

Lumber

SPRUCE, HEMLOCK AND PINE, CEDAR RAILWAY TIES AND SHINGLES, SPRUCE CLAPBOARDS.

SALES MANAGERS

T. J. STEVENSON GEO. E. CHALLES

THE BROWN BROTHERS LIMITED

Simcoe and Pearl Sts. TORONTO



MANUFACTURERS OF

ACCOUNT BOOKS, LOOSE LEAF LEDGERS

Binders and Specialties

LEATHER GOODS—DIARIES—STATIONERY

Printers' and Bookbinders' Supplies

Established 1849

BRADSTREET'S

Capital and Surplus - - $1,500,000

Offices Throughout the Civilized World

Executive Offices: Nos. 346 and 348 BROADWAY, N.Y. CITY, U.S.A.

The Bradstreet Company gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying, and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world. Subscriptions are based on the service furnished, and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary, and business corporations. Specific terms may be obtained by addressing the Company at any of its offices. Correspondence invited.

OFFICES IN CANADA

Edmonton, Alta. Hamilton, Ont. London, Ont.
Halifax, N.S. Ottawa, Ont. Quebec, Que.
Montreal, Que. Toronto, Ont. Vancouver, B.C.
St. John, N.B. Winnipeg, Man. Calgary, Alta. Victoria, B.C. Sydney, N.S.

THOS. C. IRVING, Gen. Man. Western Canada, Toronto

EXPORTERS OF

Reed Organs, Piano Stools, Music Cabinets.

Catalogue B.

The Goderich Organ Co. Limited

GODERICH, CANADA

Closet Seats, Flush Tanks, Medicine Cabinets,

Everything for the Bathroom.

Write for Catalogue C and Price List.

terms. They represented two entirely different kinds of money and had no association with each other on the employer's books, nor ever combined for teamwork.

But war finance broke down this "class consciousness" between the two dollars. When employees bought Liberty bonds or pledged themselves to take a certain number of thrift stamps weekly, the employer volunteered to do the accounting, deducting bond payments from wages and slipping thrift stamps or war savings stamps into the pay envelope. This brought a new viewpoint to both parties. The wage earner often saved money for the first time in his life, and the employer felt that thrift had a stabilizing value in his work force. That was a value worth paying for, and presently the employer was adding money to employees' savings in the form of additional interest or a bonus. Now the idea is being carried further, as in this English plan of paying wages, extending decent banking facilities to wage earners.

For lack of a checking account hard-earned money is often frittered away, stolen, lost or handed over to fraud promoters. But any man or woman who banks money and pays bills by check, and accumulates savings for investment, soon learns to manage money matters skilfully. The common distrust of banks disappears. The banker's counsel is sought in matters of investment. There is an improvement all around.

Laurentide Profits Increase

Figures for Last Year's Business Show that Record Profits Were Earned

At the annual meeting of the Laurentide Company, held in Montreal on September 2, a statement was presented showing that for the year ended June 30 last, after all deductions had been made, net profits of $1,823,656 were earned, an increase of $119,001 over 1918. Earnings were equivalent to 19 per cent. on the outstanding capital shares. The net revenue of the year totalled $2,955,978, against $2,593,834 in the previous twelve months, and $2,220,660 in 1917, the moderately lower gain in profits being due to more generous allowances for depreciation and the deduction from the year's earnings of $175,554 as a reserve for the depletion of the company's timber limits, which, in the statement under review, appears in the working account, instead of in the balance sheet, as heretofore. The allowance for depreciation for buildings and plant was made with an even more generous hand than in the past, $329,841 being written off in the 1919 exhibit, against $271,883 in 1918 and $116,670 in 1917.

After the payment of dividends and the bonus declared several months ago, which aggregated $1,392,000 in the 1918-19 period, compared with $960,000 in 1917-18 and $864,000 in 1916-17, there remained a balance of $431,656 to carry into the current year's accounts, being total surplus of $2,857,204, equal to over 28 per cent. of the combined capital and funded obligations of the pulp and paper enterprise. The disclosing of a strong financial position as regards working capital is little in the way of a novelty in an annual statement of the Laurentide Company, but the 1919 exhibit is notable for an even more comfortable showing in this respect, working capital as at June 30 last standing at $5,355,670, compared with $4,679,669 last year. Current assets of $7,238,086 are nearly $1,000,000 in excess of those of 1918, although current liabilities also show an increase of almost $266,000. The latter is more than accounted for, however, in the increased dividend and initial bonus paid shortly after the end of the company's fiscal year, but shown in the 1919 statement.

The Merchants Bank of Canada

Head Office, MONTREAL **Established 1864**

Capital Paid-up	$ 7,000,000
Reserve Funds	7,574,043
Total Deposits (July 31st, 1919)	150.000.000
Total Assets (July 31st, 1919)	181.000.000

President: Sir H. Montagu Allan, C.V.O.
Vice-President: K. W. Blackwell
General Manager: D. C. Macarow
Supt. of Branches and Chief Inspector: T. E. Merrett

Merchants and Manufacturers

are cordially invited to discuss all matters of finance with us.

The Merchants Bank is more than a mere depository—it is an Institution that stands ever ready to advise and assist its customers in regard to money matters, investments and business generally.

333 Branches in Canada Extending from the Atlantic to the Pacific

A Financial Highway for Canadian Trade

Coincident with Canada's foreign trade ambitions, we have made remarkable progress toward the fulfilment of our policy to build up an institution of an international character which will provide a financial highway for Canadian Trade with foreign countries.

Our Branches in London, New York, Montreal, Toronto, Winnipeg and Vancouver are equipped with Foreign Exchange Departments prepared to finance and advise Canadian exporters and importers.

UNION BANK OF CANADA

HEAD OFFICE: WINNIPEG

Resources - $153,000,000

JARDINE
Canadian Giant Power Hammer



There is nothing like it for rapid and accurate production of light to medium forgings.

No. 25 forges up to 2" stock.
1½ Horse Power drives it.
Weight 825 lbs.
Price $171.00.

No. 50 forges up to 2½" stock.
2½ Horse Power required for heavy work.
Weight 1,750 lbs.
Price $275.50.

A. B. JARDINE & CO., Limited
HESPELER - ONTARIO

Canadian Locomotive Company

Profits for the Past Year Were the Largest in the History of The Company

The report presented to the annual meeting of the Canadian Locomotive Company, on September 17, recorded profits for the year of $892,976, an increase of about $215,000 over 1917-18, and the largest in the history of the company. This fact is especially gratifying because for the last two months of the year's operations, the plant at Kingston was experiencing a strike. Of the total profits, $44,292 was obtained from interest on investments. After meeting all charges and providing for depreciation and replacement, there remained a balance of $427,377, which added to the previous balance, brings the profit and loss account up to $1,348,800.

Cockshutt Plow Co.

Further Marked Increases in Profits for Past Year Shown by the Company

Profits of $571,586 for the year ended June 30 last, are reported by the Cockshutt Plow Co., Limited, of Brantford. These are the largest profits since 1913, when $753,298 was earned. Referring to the company's present position, Col. Harry Cockshutt, the president, says: "The position of the company has materially improved. We have been able to pay four quarterly dividends of one per cent. on the preference capital and we expect to continue the dividends until conditions become more settled. We further hope to declare at an early date a dividend of 3½ per cent. on account of deferred dividends on the preferred stock."



Baldwin's Limited

Capital to be Increased in Order to Carry Out Industrial Developments in Canada

At the annual meeting of Baldwin's, Limited, recently held in Birmingham, England, a resolution was moved increasing the capital of the company by the creation of 3,000,000 "B" preference shares of £1 each. A portion of the money will be used for the development of property acquired in Canada. The company enjoys trade in the Dominion which requires further enterprise if it is to be maintained and increased. For this reason the directors desire to utilize their special knowledge and facilities in order that they may actually manufacture on a considerable scale in Canada itself. Baldwin's, Limited, have purchased the plant of British Forgings, Limited, on Ashbridge's Bay, Toronto.

Universal Tool Steel Co.

Annual Report for the Year 1918 Shows a Net Revenue of $278,382

The Universal Tool Steel Company, of which Sir Donald Mann is president, has issued its report for the year ending December 31, 1918. Gross profits on shell-making amounted to $540,876, while on the manufacture of a bolt, which was taken up after munition business ceased, a loss was incurred of $30,146. The net income was $278,382, out of which there was paid a dividend of 2 per cent. on the common stock and 6 per cent. on the preferred.





The "R Shield" Watermark appears in these standard Rolland Papers:

Superfine Linen Record
Earnscliffe Linen Bond
Empire Linen Bond
Colonial Bond
Mount Royal Bond

The Use of Color

If you use different colored paper to differentiate between Head Office and Branch Office stationery, let us send you samples of

Earnscliffe Linen Bond

made in

White and Eight Tints

Previous to date **"Earnscliffe,"** which has been known to buyers for years, was made in White, Azure and Buff only. It is now made in the following:

WHITE, AZURE, BLUE, PINK, BUFF, GOLDEN ROD, GREEN and RUSSET

For those interested we have a very fine portfolio showing samples of Earnscliffe colors together with examples of printing. Send us your name and let us send you one.



Made in Canada by
The Rolland Paper Co.
Limited
Montreal



From the Angle of your Filing Clerk

You probably look on your filing system as a place where so many letters and papers are stored.

But your filing clerk? She isn't fortunate enough to be able to look at it in such an easy, buoyant manner. With her it's a serious part of routine.

She knows that when you ask for a certain paper you want it quickly, without any waste of time.

With her the *proper system* means the difference between a slow, cumbersome, inaccurate way, fraught with many delays—and a speedy, accurate and efficient method of filing.

"Office Specialty" Systems of Filing and Record Keeping are fundamentally right. A proper principle of organization underlies each one of them. Each system is designed for a specific purpose and it achieves that purpose in a way that extensive study has demonstrated to be the best.

"Office Specialty" System Service, Dominion-Wide in its scope, is offered to any business organization without fee or charge.

THE OFFICE SPECIALTY MFG. CO., LIMITED
Home Office NEWMARKET Canada

Filing Equipment Stores at:

Toronto Montreal Ottawa Halifax Hamilton Winnipeg
Regina Edmonton Calgary Vancouver

941

OFFICE SPECIALTY
FILING SYSTEMS

DEPENDABLE SERVICE

JOINT GLUE

D AND P QUALITY

VENEER GLUE

ALWAYS UNIFORM
Samples and Prices on Request

DELANY & PETTIT, LIMITED
TORONTO

HIGH GRADE COATED PAPER

For the Best Results in Fine Screen Half-Tone and Color Work, use

"Red Seal" Coated Book

"Luxacoted Porcelain" Coated Book

TRADE COATED R PAPER MARK
REGISTERED

Made by

RITCHIE & RAMSAY LIMITED, TORONTO
CANADA

Western Selling Agents :
JOHN MARTIN PAPER CO., LTD., Winnipeg and Calgary

REGAL BOND

MADE IN CANADA

OUR WATERMARK IS OUR GUARANTEE

Truly a Prince among papers of its class with its

Beautiful Whiteness
Well-Knit Fibre
Smooth and Even Finish

Just what you require for record work that must stand frequent handling and yet remain crisp and fresh

ENVELOPES TO MATCH

Barber-Ellis Limited

71 Wellington Street West

ENVELOPE MANUFACTURERS AND PAPER DEALERS

Toronto Brantford Winnipeg Calgary Vancouver

Good Things from Other Magazines

Why Suggestion Systems So Frequently Fail

In most cases suggestion systems are apparently failures, but employers, who have given the subject a more careful trial and have thoroughly studied methods that enable them to use to best advantage the ideas which employees turn in, think differently. In the following interesting article some of the essentials necessary to make a suggestion system successful are outlined and experiences recorded.

By NEIL M. CLARK

(Reprinted from "System")

IDEAS are the good red blood of business, provided, of course, they are the right kind of ideas . . . . those for example, which have to do with better machines, methods, or policies. Ideas evolve in the minds of human beings by some process usually difficult to follow; and the concern of management with them lies in the fact that probably the typical employee has about as many ideas, taking one with another, as the typical employer. Many of these ideas of employees are, in the nature of things, bound to relate to the employer and the work. It rests largely with the management whether this potentially tremendous brain force, which can never be merely neutral in its effects, is directed into constructive or destructive business channels.

Ideas from Unexpected Sources

The owner of a string of department stores tells that the best business idea he ever got came from a delivery boy, aged fourteen. That is one of the peculiarities of ideas. No one can safely prophesy just where they are going to turn up. It is clearly the part of wisdom, therefore, to provide for their cordial consideration when even they do happen to put their heads above the surface.

That is merely good business. But there is another side to the matter. Management needs to provide some kind of outlet for the dark ideas and gloomy thoughts that tend to brew and stew in the mind of the man who does not let the sunlight of intelligent intellectual companionship into his soul. Such ideas and thoughts, if they do not find ultimate expression in hostile acts against the management, are pretty sure in the majority of cases to "sour a man" on his work and prevent him from being—in the fine sense of the word, and probably in any sense—an efficient producer.

An interesting story could be woven around the trials of the business suggestion box. Great numbers of employers, well aware of the facts enumerated, have sought to garner in the harvest of ideas. The history of one of these attempts will serve to indicate the fate of many—I think perhaps a majority.

The campaign for suggestions was started in this concern with the roll of drums, as it were. Each employee received a notice explaining the company's desire to receive ideas, and carefully defining the nature of suggestions to be submitted. Cash prizes of $5, $2.50, $1, and honorable mention, were promised the winners in the contest, which ran for four weeks. At the end of that period a new contest started. The employees were given special forms on which to write out their suggestions, and they were told to deposit them in a locked box specially devised for the purpose.

So far, good!

Then the employees began to respond. It turned out that nearly everybody had at least one suggestion which he thought should reach the manager's intelligence . . . . . some plan which he supposed might save the company money, simplify procedure, or increase profits. When the first contest period closed, the committee in charge of awards had an abundance of ideas from which to select winners. They made their decisions, and on the appointed day called all the workers together in a large hall, where songs were sung, speeches made, and finally, amidst considerable interest, the prizes were handed to the winners.

This programme was repeated through three or four contest periods. But as the day approached for each new award of prizes, the committee found that the number of suggestions of any value dwindled so rapidly that they were not worth the bother and time spent in getting them. The "suggestion system" silently passed into oblivion.

Now, what was wrong? Who was to blame? Were the employees' minds such arid wastes that no further ideas could be coaxed to grow in them? Or, was the management somehow at fault?

In this instance, as in many similar cases, I believe the blame rested wholly with the management. In the first place, the general manager was not seriously concerned about getting ideas from the workers that he could *use*. He was, in the last analysis, fairly confident that he and the executives associated with him, were competent to run the business all right. The suggestion system he considered as more or less of a game, which might amuse the employees.

Difficult to Keep up Interest

As a result of this attitude, no serious effort was made to apply the suggestions, even though some of them gave indications of constructive thought on the part of employees. Not many workers can be kept continuously interested in the moderately remote chance of winning a rather slender prize, particularly when the purpose of the contest is so obviously farcical.

Many employers can relate an experience closely resembling this. And the opinion of most of them seems to be that the results do not warrant the effort and money spent in getting suggestions. Employers who have given the subject a more careful trial, and have thoroughly studied

Northern Aluminum Company
Limited

Sales Office: 1305 Bank of Hamilton Bldg., Toronto

Works:
Shawinigan Falls, P.Q. Toronto, Ontario

ALUMINUM
Electrical Conductors
Sheet Ingot
Castings Rod
Tubing Special Shapes
Fabricated Articles

Send inquiries to
1305 BANK OF HAMILTON BUILDING
TORONTO

This Handy Free Oil Can is



FOR every motor use—automobile, launch, stationary engine, or tractor — En-ar-co National Motor Oil increases the power, and reduces the wear on parts. Scientifically refined by graduate workmen, the high quality of En-ar-co is unvarying. Try this extra efficient oil once and you will never use any other kind.

Send in the coupon NOW for our handy oil can. There is nothing like it to help you to oil the hard-to-get-at places. It will be sent you FREE.

Canadian Oil Companies, Limited
1360 Excelsior Life Bldg., Toronto, Ont.

Canadian Oil Companies, Limited
1360 Excelsior Life Bldg., Toronto, Ont.

I own a _____ [Give name]
automobile and enclose two 3-cent stamps. Send me handy oil can FREE. Also please state nearest shipping point in this Province and quote prices on En-ar-co products. I will be in the market about

_____ [Give date here]

Name _____

Address _____

Province _____

methods that enable them to use to best advantage the ideas which employees turn in, think differently. From the experience of these successful users of suggestion plans, it seems fairly clear that it is essential, if a suggestion system is to be successful, to demonstrate to employees—

1. The open-mindedness of the management, and the serious desire for the ideas of employees;

2. The willingness to consider thoroughly the ideas that are offered, no matter whether they seem good or bad at first glance; and the intention in any case to let the employee know the decision and the reason for it;

3. The desire to reward fairly the man who makes the suggestion, if it has any value.

The best proof that the management wants suggestions is of course to use those it gets, when they are worth using. When that is done, the news of it spreads rapidly through an organization. It gives the worker a genuine feeling of pride to point to a machine or method and say, "That's my idea!" And if he is rewarded fairly, it is an incentive to others to turn in their suggestions also. These may seem to be little things. But good management after all is the sum of many little things, which are handled in the right way.

Merely to ask employees for suggestions may have the same effect as asking a small boy to define the moon. He has no definition. So far as he is aware, it is just a moon! A hint as to the kind of suggestions wanted often proves valuable in helping employees to concentrate on the kind of problem where they are most likely to be of help. A New York company which has been unusually successful in developing the habit of suggestions, goes to considerable pains to let its employees know what a good suggestion really is. When, for example, a worker suggested an improved part for a machine, which was adopted, the manager had photographs of both the old and new plan made and mounted on cardboard, with a full explanation of the improvement. Accompanying it was a brief text explaining that his idea exemplified the kind of suggestions which the management especially wished to encourage.

The Kind of Suggestion Wanted

In other words, the employee was not asked for "suggestions"—a large word, the exact meaning of which he might fail to comprehend; but he was shown an example of a suggestion and told, "Maybe there's something about your work on which you can suggest improvements in somewhat the same way." Unless there is concrete, constructive direction of the workers' thought, some of them are likely to recommend, as one man did, "make the truckers load faster." He happened to be a machine tender with plenty of opportunity to observe the foibles of truckers! His recommendation was not utterly devoid of value, for it suggested a direction for possible investigation; but it did fall short in all the elements that make a suggestion really valuable to the management.

In any plant where the manager has succeeded in convincing the workers that he welcomes suggestions, and treats them fairly, there is usually no lack of them. And here enters a danger: namely, the risk of slighting suggestions, or turning them down without letting the originators know the real reasons for doing so. This is also an opportunity. If a man has a suggestion rejected, and he knows why it is rejected, he is in a better position than before to avoid further bad suggestions.

The danger is delicate and common. In business two minds or two groups of minds are constantly meeting, one of which says "let's do *this*," while the other insists, "let's do *that!*" Given equal force of character, lung power, and

MADE IN
PREMIER
CANADA
GALVANIZED SHEETS

FRIENDSHIP

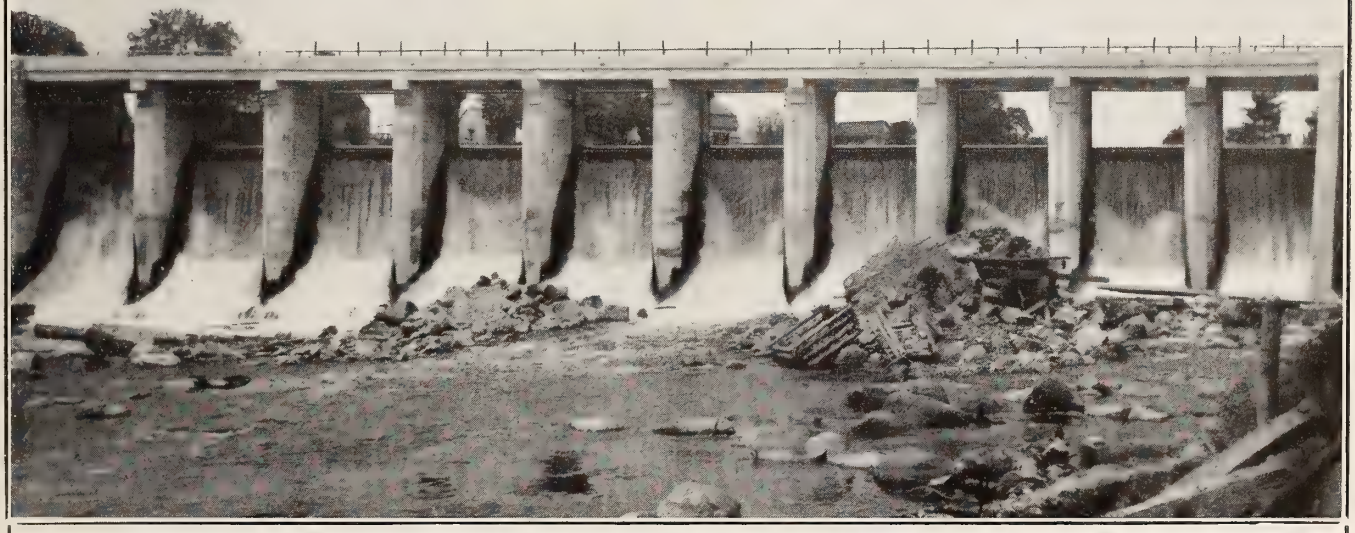
is one thing----but 5% U.S. exchange is "something else again, Mawruss"

Fewer trips to
NEW YORK
may be hard for the buyers, but buying
HOME GOODS

is better for Canada----especially when the goods are better, too.

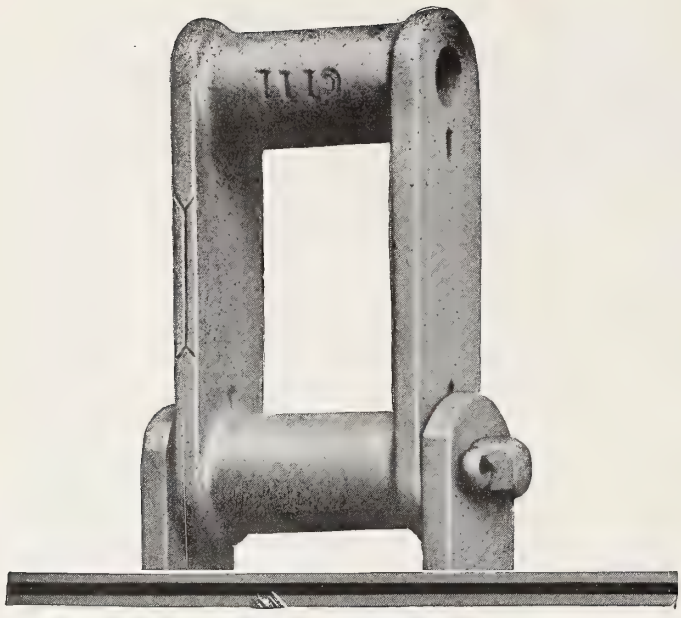
DOMINION SHEET METAL CORPORATION, Limited
HAMILTON, CANADA

THE FOUNDATION COMPANY
LIMITED
ENGINEERS CONTRACTORS
MONTREAL SYDNEY.N.S.



The completion of this dam adds another item to the long list of completed contracts spreading from British Columbia to Cape Breton Island. The list covers a very broad field of work, including bridge piers, tunnels, intakes, sewers, dams, power houses, industrial buildings, building foundation, underpinning of building, diamond drill borings and installation and removal of heavy machinery.

The photograph shows the dam at St. Jerome, P.Q., built for the "Fleet Foot" factory of the Consolidated Rubber Company.



"COMBINATION"

LINK-BELT

FOR ELEVATING AND CONVEYING

STRENGTH and low cost are combined in "C" Class Link-Belt. It is well-established in the fertilizer industry as a durable Link-Belt for elevating and conveying

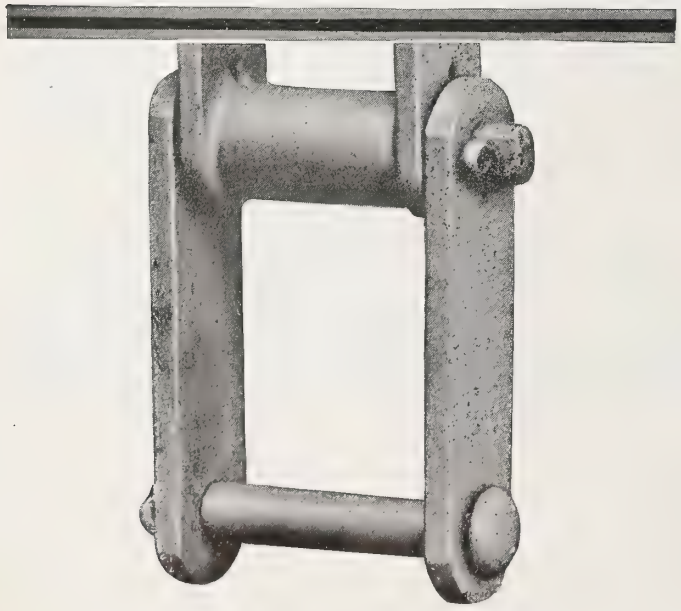
Length of life in service is increased by preventing motion between the pin and the side bars which hold it. The pins are accurately fitted to the side bars. A flat portion is milled accurately at the end of the pin, fitting into a carefully broached hole in the side bar. Obviously this construction is superior to forged lugs or necks under the head to hold the pin in place

Write for Folder No. 306, which gives particulars regarding "C" Class Link-Belt. Our experienced engineers offer their services in solving your problems in elevating, conveying and power transmission. Write to the nearest office.

CANADIAN LINK-BELT CO., LTD.

Wellington and Peter Streets
TORONTO

Stock also carried at 1195 St. James Street, MONTREAL, Que.



logic, the two sides quickly reach an *impasse*. It is usually true, however, and this is commonly the case as between the management and the men, that one side has a subtle weapon, reserved for finally putting an end to the discussion. That weapon is authority.

The boss "has the say." In the last analysis he depends on his judgment for making his decision "yes" or "no"; and always, when he says "no," he runs the risk of seeming arbitrary, thereby arousing resentment in the mind of the employee, or at least destroying some of his initiative.

When "No" is Necessary

The best way to say "no," as a rule, is to give all the reasons with complete frankness. During the hottest period of summer, a year ago, a battery of new machines for use on some Government work was being installed in an Ohio factory. The manufacturers of the machines had been unable to develop a self-feed attachment. It was imperative to deliver the product to the Government. The needed capacity could practically be reached by hand feeding; but this required an operative on each machine, and men were scarce.

One employee, not a mechanic by trade, but a man of unusual ability in that direction, was positive he could develop an automatic feed, and he set himself to the task of doing so, working incessantly through the days and far into the hot nights. Finally, late one evening the manager was called to the factory by telephone to see a practical demonstration of the device. It functioned, and it functioned well; but the manager could see where there was a chance that the device might frequently throw the machines out of working order. The loss of time from this cause, he feared, might result in a smaller weekly production from each machine than through the method of hand feeding. Delivery dates were imperative. Since they could just about be met by the hand feeding process, the manager, after thoroughly considering the advantages and disadvantages of the two methods, felt compelled to reject the feeding device.

It was a crushing blow to the man, whose creative genius had developed a novel and workable attachment. Money alone could not overcome his disappointment. The case naturally had to be handled with a little more than usual care. Says the manager:

"I did not, however, find it difficult to convince our employee that in demonstrating his ability along lines which were bound to be useful to us in the future, he had in reality accomplished a great deal for himself, and that the time and energy he had thrown into this thing had not by any means been wasted."

The Eastman Kodak Company uses an analysis sheet by means of which those responsible for looking into the suggestions of workers measure the cost of changes against the savings they may effect. The worker is taken into the confidence of the management, and if an idea cannot be used with practical results, the reasons as they are shown by the analysis sheet are fully explained to him. Mr. A. Stuber, of this company, says of the plan:

Should be Handled Diplomatically

"The answer to the suggestion which is not approved can, if not worded properly, discourage the suggester so that no further suggestions will be received from him. Or, if proper advertising thought is given to the answer, he can be stimulated again to offer another suggestion. I believe that this point is one of the main factors in the success or failure of a suggestion system.

"There are several other big points in the suggestion system which up to the present time have been overlooked, and

By Product Coke

Hamilton Pig Iron

Open Hearth
Steel Billets

Steel and
Iron Bars

Open Hearth
Steel Sheets

Drop
Forgings

Quality

THE
STEEL COMPANY
OF
CANADA
LIMITED

HAMILTON MONTREAL

Service

Railway
Fastenings

Wrought
Pipe

Pole Line
Hardware

Screws & Nails

Bolts Nuts & Washers

Wire & Wire Products

which I believe are of considerable benefit to the management. One of these which I am experimenting with and watching very closely, is using the suggestion system as a means of improving the so-called human relation in industry.

"I find that the average employee when in my office for the purpose of discussing one of his suggestions, is in a better frame of mind to tell me his troubles and the troubles which other employees are experiencing, than when brought to my office for any other purpose. By tactful questioning I am able to get more information on actual conditions in the shop than at any other time. I am also able to take some of those grievances which he believes very serious, and show him that he is wrong.

"At this time, if properly handled, the management can establish a real get-together spirit with these employees, and mutual understanding and trust can be developed, which is of considerable benefit to both the employee and the management."

The reward that the worker receives for a good suggestion should justly have some relation to its dollars-and-cents value to the company. A man who turns in an idea, does something that can hardly be recompensed in his regular wage. If his idea is for machinery, or equipment that will save the company perhaps hundreds or even thousands of dollars—there have been such suggestions!—he can hardly, in the interest of justice, be fairly rewarded by the mere payment of a hard-and-fast sum, such as $5 or $10, or even $25 or $50.

His reward may not be directly in money at all. It may be wisest to give him a chance at a bigger job, or the opportunity and facilities to pursue a course of study to fit himself for larger tasks. One employer I know of, rewarding an employee who had made an especially valuable suggestion, handed him a cheque for a little better than a thousand dollars, to clear the mortgage on his home!

The co-operation that the company is forced to give in perfecting an idea may also enter as an element into the consideration of the just reward. Often a man will have in his head the germ of an idea, which he has neither the skill nor the facilities to perfect. When other heads combine with his to attain the final result, he can readily be made to realize that his reward is bound not to be as great as if, with his own resources, he developed the idea to its final shape.

Put a Padlock on Suggestion Box

Men are inclined to be jealous of their idea. This is natural. A brief experience in a few plants usually teaches a worker how easy it may be for one man—a foreman or subexecutive, perhaps, or even those in higher authority—to appropriate his thought, and seek to take the full credit. That is why it is important, if a suggestion plan is to succeed, to make provision so that every man's suggestion will reach those fully qualified and willing to place full credit wherever credit may be due.

Most suggestion boxes need a padlock with a key in the hands of the man designated as the representative of the management to consider all of the suggestions.

So much for encouraging the workers to submit their constructive ideas. It is safe to say that when the minds of workers are turned in the direction of building up, there is not much room left for those ideas which tend to tear down and destroy . . . . ideas that often lie hidden, making the workers disgruntled and gloomy of temperament, inefficient of hand, and fertile soil for seeds of unrest, dissatisfaction, or industrial strife. Such ideas are seldom expressed except in snarls.

The Canadian Appraisal Company
Limited

Appraisals of physical assets are of particular, if not paramount interest, both to the manufacturer and to his auditor:

Where property is acquired under abnormal conditions of cost, through trade, by the issue of stock, or for services rendered.

Where a property has been so altered that neither the original cost nor value would have any relation to present value.

Where expenditures for betterments, additions, etc., have been charged to expense, or where excessive depreciations have been written off and have not been credited to specific reserves.

In determining the amount of obsolescence, particularly of machinery.

In the preparation of Prospectuses which offer for sale Bonds and other Securities of a business enterprise.

In all such circumstances the appraiser's services are necessary if the true facts as to values are to be determined, even though, for particular reasons, such values be not incorporated into the books of account.

CORRESPONDENCE INVITED

Head Office:
17 St John Street, Montreal

Toronto:
Royal Bank Building

New York:
Equitable Building

G.F.E. Fittings


Straight Cross


Elbow


Tee


Straight Tee

IN our sprinkler department we could not afford to use ordinary fittings. We have to make them ourselves to get the quality we want.

Every G.F.E. fitting must be perfect. We throw out every one that is not up to our standard.

That's why G.F.E. fittings "make up" so easily. There is no need to force a joint. They couple up as easily as your foot slips into your shoe. Frequently you screw them on with your hands and finish with a wrench.

Isn't that the kind of fittings you want to use and to sell?

Wire, write or phone your orders. We will show you quick service.

G.F.E. Hot Water Heating Systems

All G.F.E. heating systems in large industrial plants have remarkable records for fuel saving. Their owners boast of their efficiency.

Over fifty years of successful experience in this sort of work have given us valuable practical knowledge, which we gladly place at your service.

We are sure that the low operating cost, high efficiency and wide range of temperature possible with G.F.E. heating will be found well worth your careful investigation.

CANADIAN
GENERAL FIRE EXTINGUISHER CO.
Limited

W. L. HORN, Managing Director

TORONTO, ONT.—2440 Dundas St. West
WINNIPEG, MAN.—910 Somerset Bldg.
MONTREAL, QUE.—370 Beaumont Ave.
VANCOUVER, B.C.—1140 Hamilton St.

Grinnell Automatic Sprinkler Systems, Steam and Hot Water Heating Installations, Power Piping, Service

RECONSTRUCTION NEEDS OF FRANCE

Of all the belligerent nations on the side of the Allies, France suffered most. In loss of population, in drain on financial resources, in decline of export trade and in destruction of material wealth and productive agencies, the burdens imposed by the war on France far exceeded those of any of her Allies.

By C. W. A. Veditz, Ph.D.
(From the "American Review of Reviews.")

The first problem that France has to meet after the signing of peace, next to the demobilization of her troops, will of course be the reconstruction and re-equipment of her devastated regions—the task of putting her productive machinery into normal working order. The mere replacing of damaged and destroyed plants, the rebuilding of wrecked dwellings, the resuming of farming operations upon the shell-torn soil, will call for large expenditures of money, for a generous supply of labor both skilled and unskilled, for materials of all sorts, and for a high order of organizing genius and of financial ingenuity.

It must not be overlooked that France has in most respects been the greatest sufferer from the war. In her loss of population, in the drain upon her financial resources, in the decline of her export trade, and in the wholesale and wanton destruction, by the enemy, of her material wealth and her productive agencies, the burdens which over four years of war have imposed upon France far exceed those which any of her allies has been called upon to bear.

The Human Wastage of the War

Of the great European nations France is the only one which for years has had a stationary population (approximately forty million) and her shortage of labor has for years been such that hundreds of thousands of foreign workers have been attracted across her frontiers by the lure of higher wages. In direct loss of human material the war has cost France about two million men. Figures given by the Under Secretary for War, as of November 1st, 1918, are as follows:

	Officers.	Men.
Killed	31,300	1,010,000
Disappeared	3,000	311,000
Prisoners living in enemy countries or in Switzerland	8,300	438,000
Now receiving pensions		76,000
Réformés No. 1 (incapacitated)		113,000
Réformés No. 2 (released from service)		2,374,000
Temporary réformés (temporarily unfit for service		131,000

It is certain that the total number of killed, and of those who have been sent home with wounds or diseases that make them partly or wholly unfit for productive services, and transform them from active to passive factors in the economic life of the nation, will not fall short of two million male adults. Indeed, from a purely economic point of view the disabled and incapacitated soldiers and sailors represent a liability rather than an asset. The military pension bill now before the French national legislature involves expenditures so gigantic that one deputy, in discussing the probable effects of a proposed slight increase in the rate of allowances, admitted that the change would make a difference, in the annual total payments, of "several hundred million francs." The former Minister of Finances, Ribot, in a remarkable speech in the French Senate on December 17th, 1918, estimated that the pensions that would be paid to the sick and disabled, the widows and orphans of the war, would amount to two and a half billion francs, or about $500,000,000 per annum.



Are you, ***Mr. Manufacturer,*** satisfied with the **Quality** and **Delivery** of your Malleable Iron Castings?

Another satisfied customer writes us:

"Your service and material has been satisfactory for 1918 and we are very well pleased with both. You have at all times been able to give us the very best of castings and your service has been admirable.

We are only too glad to tell you this and hope that your other customers are as well satisfied as we are."

MAY WE EXPECT AN ENQUIRY FROM YOU?

McKINNON INDUSTRIES, LIMITED

St. Catharines, Ontario, Canada



Ford Motor Co. of Canada Ltd.
Ford, Ont.

Built by WELLS AND GRAY LIMITED
Engineers and Contractors

WE have built the whole of this plant. We started work in 1910 and have continued without interruption for eight years. Our men are still working on extensions to this plant.

All buildings are permanent, fireproof and modern, reinforced concrete being used almost exclusively.

We have the organization and equipment to handle this work quickly and economically.

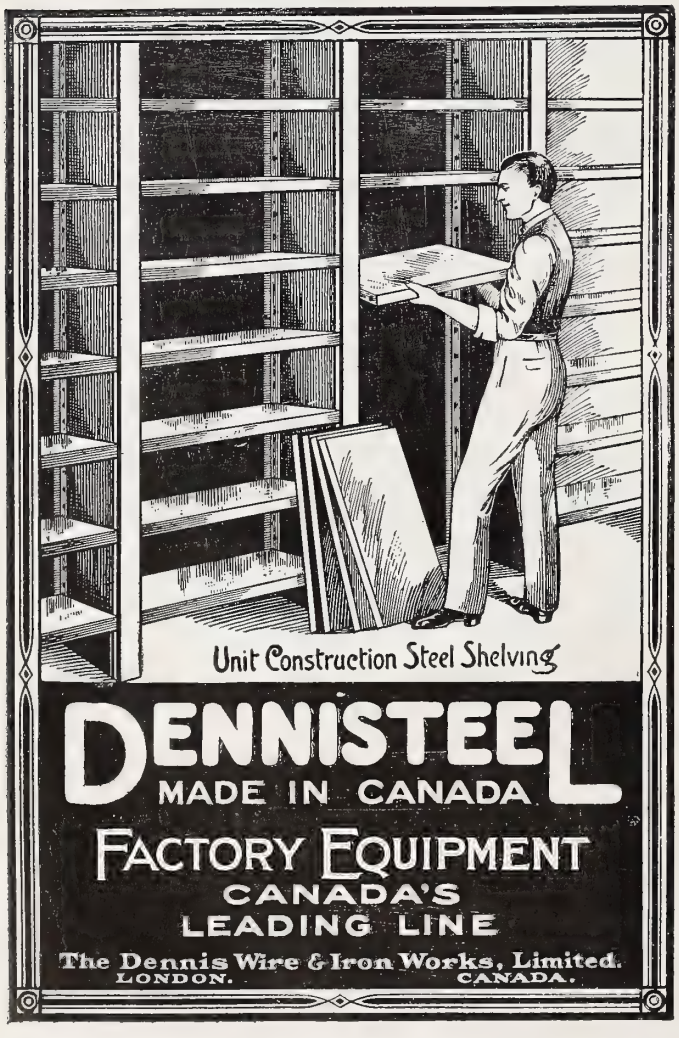
WELLS AND GRAY, LIMITED

Engineers and Contractors

Branch Office:
Bank of Commerce Bldg.,
Windsor, Ont.

TORONTO, ONT.,
701 Confederation Life Bldg.

Another factor in French population that should not be overlooked, and to which I have seen no reference in the American press, consists in the startling decline in the French birth-rate, which even in normal times is barely sufficient to maintain the total population at a level of about forty millions. In the 77 "departments" of France that were not invaded—that is to say, excluding the war-swept regions—the birth-rate fell off, from August, 1914, to the end of the year 1917, by 883,160. Hence it may be said without exaggeration that, in addition to the two million adult males killed, or incapacitated beyond hope of redemption, at least one million children (more if we take into account the figures for 1918, and the inevitable subsequent effects of the lower birth-rate), who would have been born to France in normal times, failed to see the light of day. For France this is a matter of literally vital importance, her birth-rate having fallen from 19 per thousand in 1911-1913, to 10 per thousand in 1915-1916, whereas the birth-rates of England, Holland, Denmark, Spain vary from 21 to 31 per thousand. It was the shortage of man-power in France that led to the introduction before the war of the three-year compulsory military service instead of the two-year service



To Manufacturers CANADIAN MANUFACTURERS, LTD., Box 1881. Johannesburg, South Africa, wish to inform all Manufacturers they are open to negotiate for representation in South Africa. ANY LINE CAN BE HANDLED SUCCESSFULLY

For Germany, with her population of 67,000,000 in 1914, increasing at the rate of about a million a year, had no difficulty in maintaining a considerably larger standing army.

As for the financial cost of the war through government expenditures, the national debt of France amounts to approximately 170 billion francs, instead of the 32 billion francs at the outbreak of the war (over 30 billion dollars instead of 6 billion dollars). Ribot estimates that the annual expenditures of the government, together with the interest charges on the debt, will reach a grand total of about 18 billion francs, or $3,500,000,000. This amounts to approximately 6 per cent. of the national wealth, which is variously estimated by the leading authorities at from 250 to 300 billion francs. The present sources of public revenue yield about seven billion francs per annum ($1,400,000,000).

Trade Losses

Quite distinct and apart from the heavy obligations which the increased public debt imposes on France, is the very unfavorable "balance of trade" during the war. Of all the belligerent nations on the side of the allies, France has probably had least regard for the maintenance of her export trade, and during the long period in which she sold less goods than usual to foreign countries, because her productive forces were diverted from their usual channels and turned to the tasks of war, the value of all goods imported into France, from the first of August, 1914, to the close of the war, exceeded the value of all exports from France by more than 40 billion francs (approximately $8,000,000,000). This so-called "unfavorable balance of trade" must obviously be offset sooner or later by the transfer of a corresponding economic value; that is to say, France will either have to pay this balance in gold, the only international money, or in goods of corresponding value. A third possible solution consists in the acceptance, by Americans and other creditors of France, of French securities; that is to say, by large-scale American investments in France.

Health of the Invaded Districts

In making an inventory of the consequences of war in France, it should also be noted that until a few months preceding the armistice the enemy still controlled, in whole or in part, ten of the eighty-odd "departments" or administrative sub-divisions of France, including the richest and industrially most important regions. The invaded Northern and Eastern departments furnished in normal times one-fourth of the government revenues. They contained one-fifth of the buildings and of the industrial establishments of the nation, outside of Paris. The Nord and the Pas-de-Calais departments alone produced 27 per cent. of the national wheat crop. Five of the invaded departments furnished 80 per cent. of the beet alcohol distilled in France. Of the 206 manufactories of beet sugar operating in 1913, 142 were located in four of the invaded departments—68 per cent. of the total.

The coal basins of Lens, Douai, Anzin, together with the other coal mines of this highly industrialized region furnished 68 per cent. of the coal mined in all of France. The famous iron ore basin of Briey-Longwy, of which the Germans acquired control early in the war, and the exploitation of which (many authorities contend) enabled Germany to carry on the war as long as she did, yielded 90 per cent. of the French iron ore. The metallurgical establishments of the East and of Hainault were responsible for 70 per cent. of the steel products and 80 per cent. of the pig iron made in France. The steam engines in the industrial plants of this section represented a total horse-power of 1,236,500, in the nation's total of 3,235,200, or 39 per cent. In France's total of 7,525,000 cotton spindles, 4,475,000 were located in these regions. Of spindles running on wool, 64 per cent. were either in these

Canadian Carbonate Company, Limited

Offices and Factories:

HALIFAX, MONTREAL, TORONTO

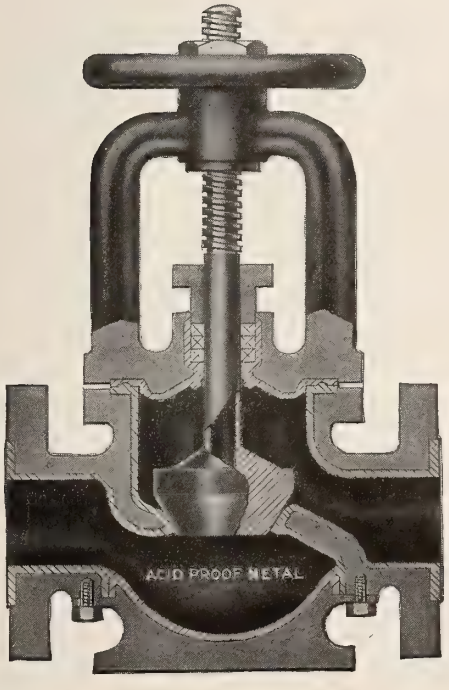
WINNIPEG, VANCOUVER

■

Manufacturers of

"CROWN BRAND" LIQUID CARBONIC ACID GAS

Acid Resisting Pump Valves



We wish to call your careful attention to our line of Acid Resisting Pumps, Valves and Fittings, they are absolutely perfect in detail. In price comparison with Acid Resisting Bronze Valves, etc., they make an enormous saving in your initial cost.

For lining Acid Tanks, Agitators, and Sulphite or Sulphate Vats, Hoyt's Sheet Metal will give far better service than the ordinary Chemical Sheet Lead in the market. If you will write us stating conditions under which your Sheet Lead is operating, we would be pleased to go into the matter fully and will convince you of the economy of Hoyt's Sheet Metal.

Write for Catalogue

HOYT METAL COMPANY

FACTORIES:

London, England; Toronto, Canada; St. Louis, Mo.
New York, N.Y.

sections held by the enemy, or so near the firing lines that they could not safely be operated.

From all of these regions the Germans have of course recently withdrawn in conformity with the terms of the armistice, and it has thus become possible for the French authorities to appraise, at least approximately, the amount and character of the damage done by the invaders during their unwelcome sojourn.

Some places were so entirely destroyed that it is impossible to fix even the sites of what had previously been prosperous and peaceful towns—like Bouchavesnes and Sailly-Saillisel. Of 841 communes in the Aisne department, says Senator Touron, barely 40 have been spared from German occupation, and whole cantons have been literally wiped out of existence. Elsewhere the damage is confined to a small part of the town or to the larger and more conspicuous edifices. But even in the localities not completely razed, the Germans stripped mills and workshops of their equipment, and the farms of their buildings, their cattle, and their implements of production. At Roye, for example, where the actual fighting caused no irreparable damage, they burned the sugar mills, removed the bronze, zinc, lead, copper, and other metallic parts of the machinery, and smashed into fragments the parts that were left. Some localities suffered the effects of repeated and violent bombardments; others were deliberately set on fire, from house to house, as in the case of Gerbévillers, in Lorraine.

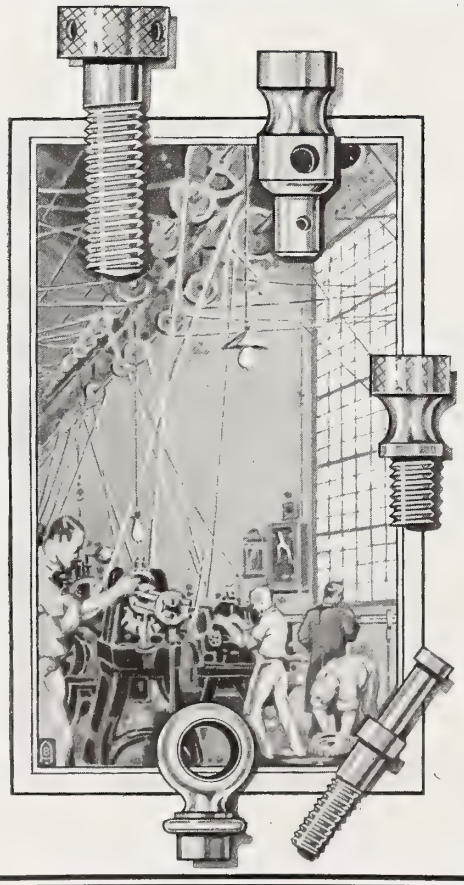
Reduction of the Coal Supply

The condition in which the coal mines have been left by the Germans is such that after extensive repairs the output can scarcely be expected to exceed half that of the normal output of this region; whence it is evident that France's need to import coal from abroad, will be greater after the war, by at least ten million tons than it was before the war. The transfer of the coal mines of the Sarre region, while it will increase considerably the national output of coal, will do this only approximately to the extent of supplying the coal required by the Sarre region itself.

The mining expert selected by the French Government to inspect and report upon the condition of the mines in the liberated regious—Lieutenant-Colonel Weiss—has declared that in some cases it will take five years to put the coal mines in full working order. The most important of them have been flooded; the workers' houses destroyed; the buildings and equipment, both overground and underground, either carried off or demolished; and the local means of transportation made unutilizable and irreparable. In the few mining localities in which the Germans permitted the workers' dwellings to stand, they stripped the dwellings of all furnishings and made them uninhabitable.

Destruction of Buildings

The 1,223 "liberated" communes covered by the investigation of May, 1917, had a total of 50,754 buildings completely destroyed, and 52,043 partly destroyed. The terms "partly destroyed" and "completely destroyed," as used by the French authorities in this inquiry, have apparently been strictly interpreted, and no account taken of buildings which have undergone no more serious damage than broken window-panes and shell-scratches on the outer walls. But whereas in many cases some of the stones, bricks and wood in damaged and destroyed structures can be used again for building purposes, there are localities in which even this is not possible. At Gerbévillers, the mayor, Dr. Camus, assured me that the greater part of the heaps of building stones lying over that martyred village, have been so calcined by the fires with which the Germans destroyed the place, that they are unfit for



Stamped Metal Parts and Automatic Screw Machine Products

Years of experience have taught us that the best results are obtained in a modern plant, modernly equipped, by employing skilled workmen handling material of superior quality.

Production thus obtained submitted to rigid inspection insures accuracy which gives to every article manufactured in our shops this distinctive mark of superiority that guarantees satisfaction to our customers.

Let us quote on your next requirements.

Our prices are reasonable.

CARON BROTHERS
CARON BUILDING
233-239 Bleury Street - MONTREAL



Steamers "REDCAP" 2730 net tons and "KYLEAKIN" 3073 net tons

loading Spruce Deals for Great Britain at Wharf Mill No. 2, Bathurst Lumber Co., Limited, Bathurst, N.B. Both Steamers were just commencing deck loads when photo was taken, and were drawing 16½ ft. water. They will draw 20½ ft. when completed. The "REDCAP" carries about 3,000,000 ft. and the "KYLEAKIN" about 3,500,000 ft. They were loaded at the rate of about 650,000 ft. per day of 10 hours.

BATHURST LUMBER CO., LIMITED

BATHURST **N.B.**

BATHURST

McClary's

DOMINATING

PRODUCTS

To a few are unknown.

To many are never forgotten.

To discriminating housewives the obvious selection.

To observing husbands the cheering factor.

To prospective purchasers a definite association with quality.

To the preceding generation still performing their functions.

To all—definite satisfaction when bought.

Write us so that you may use us

McClary's

London, Toronto, Montreal, Winnipeg, Vancouver, St. John, N.B., Hamilton, Calgary, Saskatoon, Edmonton

further use. In this small town with about two thousand inhabitants, Dr. Camus appraises the damage at fourteen million francs, basing the estimate on prices prevailing at the outbreak of the war.

The results of the investigation in May, 1917, have very recently been completed and brought up-to-date, at least in the form of approximations, by a committee of the Chamber of Deputies with M. Louis Dubois as chairman. According to the report of this committee there have been destroyed in all the devastated sections a total of approximately 250,000 edifices, and a somewhat larger number have been more or less seriously damaged. This figure thus represents a vast increase over the totals for May, 1917, and no small part of the increase is due to the fearful ravages wrought by the enemy in many of the larger cities near the firing line, or actually under German control. The figures for Arras, with a total of 4,907 edifices, show 1,311 in ruins, 1,227 partially destroyed, 1,499 damaged, and 870 fairly intact. Reims, with 14,000 edifices, has 12,000 destroyed, and of the other 2,000, damaged more or less seriously, only 500 are said to be readily reparable. At Lens, with 11,000 buildings, not one has remained intact, and few have even their outer walls standing; the sites of the local church and of the town hall are barely determinable.

In places like these, the mere task of removing the débris will require considerable time and labor. In contracts which were shown me for the cleaning up (*déblayage*) of Rheims, it is stipulated that navvies (*terrassiers*) shall be paid 2.50 francs per hour for ten hours per day, and in addition 10 francs per day as indemnity for the high cost of living. This makes a total daily wage of 35 francs, or approximately six to seven dollars a day.

Soil Made Useless for Agriculture

Apart from the damage to buildings (and it is interesting to note that Paris, as a consequence of air raids and the long distance guns, also had her share of the damage to buildings, inasmuch as 463 structures were destroyed or seriously damaged in the capital city), an important item is furnished by the literal destruction of the soil itself. In those sections in which fierce battles were carried on—as around Soissons, at the Chemin-des-Dames, on the plateau of Champagne, at Albert and at Bapaume—the trenches, zigzagging across the soil, the shelters and dugouts, the underground defences of re-inforced concrete, the shell craters—all these will make the utilization of the soil for farming purposes well-nigh inconceivable during many years to come. So thoroughly has the fertile upper soil been churned up, that no crop would grow. In the department of the Somme alone, there are 28,500 hectares (70,000 acres) in this condition; and in the devastated sections as a whole there are certainly not less than 100,000 hectares (247,000 acres) fit for nothing but possibly the planting of forests after the ground has been cleared, filled up and levelled. In a much larger area, which may possibly amount to three million acres, it will be necessary to clean up the soil, and to remove barbed-wire fences and similar obstacles, as well as the effects of four years of neglect. In many sections, the forests and orchards have been systematically burned, cut down, or otherwise destroyed by the Germans, notably in the Ardennes.

Industry Dismantled

Concerning industrial machinery and equipment in the devastated regions the report of the parliamentary committee gives interesting details. Many of the machines the Germans dismounted, labelled carefully, and transported to German plants engaged in the same branches of production, and there

ANNOUNCEMENT: FOLEY TRACTION RIMS

NOW AVAILABLE FOR EASTERN CANADA TRUCK OWNERS

THE MANITOBA BRIDGE and Iron Works, Limited, Manufacturers of Foley Traction Rims announce the appointment of **COMMERCIAL CARS LIMITED**, 88 Adelaide Street, East, Toronto, as Sole Representatives for Eastern Canada.

TRUCK OWNERS—With your truck equipped with Foley Traction Rims it will be available for service every day regardless of road conditions. They give 100% road efficiency.

FOLEY TRACTION RIMS are made of the highest grade electric crucible steel. They are indestructable and will out-last the life of your truck.

ARE INDISPENSABLE—Wherever Foley Traction Rims are in use Truck Owners have found them of incalculable value.

NOTE—Foley Traction Rims are patented in Canada. Infringements will be prosecuted.



DEALERS—The securing of an agency means a certain amount of sure business. Send now for full description: testimonials and dealer contract.

Commercial Cars Limited

Sole Representatives for Eastern Canada

88 Adelaide Street East - TORONTO

The Hamilton Bridge Works Co. Limited

HAMILTON, - ONTARIO

ENGINEERS, MANUFACTURERS and CONTRACTORS

Steel Railway Bridges
Steel Highway Bridges
Steel Buildings
Steel for Ships
Steel Turntables
Steel Trusses and Columns



Capacity 36,000 tons

5,000 tons of Standard Shapes of Structural Material in our yards for immediate shipment.

Enquiries solicited

The above is a building recently erected for the Steel Company of Canada at Hamilton, Ontario

"BEATTY"



Material Handling Plant has back of it 55 years of successful experience.

HOISTING ENGINES
STEEL DERRICKS
DIPPER DREDGES
CLAMSHELL BUCKETS
DERRICK IRONS
SUCTION DREDGES
etc.

Write us for Catalogue 21 and Prices

M. BEATTY & SONS, Limited, WELLAND

AGENTS:
H. E. Plant, 1790 St. James St., Montreal
R. Hamilton & Co., Vancouver
Kelley-Powell Ltd., Winnipeg
E. Leonard & Sons, St. John



HIGH-CLASS MADE-IN-CANADA

AIR COMPRESSORS

Send us your inquiries

HAMILTON MOTOR WORKS, LIMITED
HAMILTON CANADA

FORGED STEEL TOOLS
AXES, HAMMERS, WRENCHES
CANADA
FOUNDRIES & FORGINGS, LIMITED
BROCKVILLE, CANADA

put them up again for use, in the methodical fashion to which they are accustomed.

The textile industries furnish a good illustration of the German practises. In the woolen manufacturing region of Fourmies (which does not lie in the zone of actual warfare) the association of woolen manufacturers has reported on the condition of 74 plants in this section. These plants consist of 55 worsted spinning mills, with 735,500 spindles, of which 651,500, or 88 per cent., have been destroyed; of 13 weaving mills with 3,550 looms, of which all have been destroyed; three woolen spinning mills, in which 75 per cent. of the spindles have been destroyed; two woolen weaving mills, with 100 looms, all destroyed; a jute spinning mill with 1,800 spindles, all destroyed; and a jute weaving mill with 70 looms, likewise all destroyed. It is furthermore reported that the Germans, during their occupation or just before their withdrawal, had destroyed or removed in all a million spindles producing fine woolen and worsted yarns, and that for the French to replace these machines will require three years.

Financial Estimates

The parliamentary committee estimates the amount of destruction to dwellings, at present prices, as 20 billion francs, an estimate which coincides with those made by several national associations of builders and architects. It is furthermore estimated by the committee that the furniture, household effects, linen, bedding, and the like, which has been destroyed or which has disappeared in the invaded sections, should be valued at least at five billion francs.

These figures take no account of public buildings, churches, public monuments, and obviously no money value can be fixed for such edifices as the Cathedral of Reims or of Soissons. As for paintings, sculpture, and other works of art susceptible of removal, many of these were carried off, but most of them may be traced to their present locations; for the Germans went so far as to arrange expositions of these works of art and to issue catalogs of them. It may therefore be an easy matter to enforce their restitution.

To put the war-ridden soil into something like its original condition is estimated as requiring not less than ten billion francs, without regard for lost crops or for future declines in the yield of the land.

The damage to mines and to industrial establishments throughout the devastated regions is placed at 20 billion francs. This includes mines, metallurgical establishments of all sorts, textile mills, manufactures of machinery and tools, breweries, sugar factories, distilleries, and, in general, all industrial establishments.

Finally, fairly complete and reliable figures have been obtained concerning public works and utilities—railways, tram lines, canals, bridges, light and power plants, etc.—and these indicate damages amounting to not less than nine and one-half billion francs.

Thus the estimated amount of all the above damages gives a grand total of 64,500,000,000 francs.

Rebuilding from Local Materials

Of the total number of approximately half a million buildings destroyed or damaged, a very large number were devoted to agricultural purposes. The typical French devastated town is not the industrial centre like Lille, but the village centre of a farming region, containing the homes of the farmers and their families, and of the local tradesmen and mechanics. Their homes will for the most part be rebuilt of the same material as before—of the materials obtainable locally. The farm houses and barns, of *pisé*, stone, bricks, with but little wood, will require no far-fetched materials as a rule. Although wood will be scarce and dear, it is improbable that concrete



Manufacturers, PREVENT Big Fires by "nipping them in the bud," with

"IMPERIAL" FIRE EXTINGUISHERS

(Every "IMPERIAL" bears the Underwriters' label)

If your factory burns, how will you fill orders during the long period of rebuilding? How will you hold your customers? How will you hold your employees? Your *Insurance* won't do all this!

Every Insurance Company makes an allowance on the premium rate for the installation of APPROVED Extinguishers.

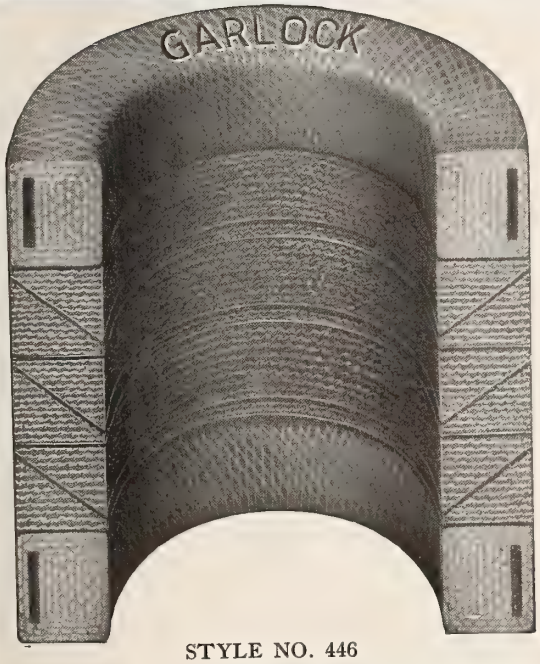
Your Insurance Agent can tell the exact amount an "IMPERIAL" will save you.

"Put the Fire out before it Puts you out"

Send for Booklet and Prices

The Booth-Coulter Copper & Brass Co. Limited

115 Sumach Street • TORONTO, Ont.



STYLE NO. 446

FOR PACKING

High Pressure Steam Rods
Use Garlock Style Number 200

Medium Pressure Steam Rods
Use Garlock Style Number 446

Low Pressure Steam Rods
Use Garlock Style Number 333

High Pressure Steam Joints
Use Garlock Style Number 950

Ordinary Steam Joints
Use Garlock Style Number 22

Worn or Scored Piston Rods
Use Garlock Style Number 336

Cold Water Piston Rods
Use Garlock Style Number 99

Inside Packed Plungers
Use Garlock Style Number 260

These packings are guaranteed to give satisfactory service under the above conditions.
Write for catalog.

The GARLOCK PACKING COMPANY, Hamilton, Ontario

Branches:

Calgary, Alta., 211 8th Avenue West
Montreal, Que., 409 Shaughnessy Bldg.
Winnipeg, Man., Galt Bldg.
Toronto, Ont., 404 Continental Life Bldg.

Jas. W. Foley & Co.

POTTERS

ST. JOHN - - N.B.



Stoneware, Rockingham Ware, Flower Pots, Stove Linings, Etc., Etc.

MADE IN CANADA

OLD TYME
PURE SAP
MAPLE SYRUP
EVERYBODY LIKES IT

LION BRAND
MAPLE BUTTER
1 lb Tins
SOLD EVERYWHERE
IT'S DELICIOUS

Maples Limited

Manufacturers and Refiners

TORONTO CANADA

and steel will be used for other buildings than for the larger factories and shops. There will probably be considerable demand for standardized wood-work (doors and windows), despite the general French aversion to them, because of the urgency of the need for homes and the lower cost of standardized wood-work.

Cement for building industrial establishments will admittedly be in great demand. Before the war the total output of cement in France was three million tons a year. During the war it fell to less than one-sixth of this quantity, and it will be no easy matter to again raise the output to the normal level, or to increase it sufficiently to meet the new requirements.

Structural iron and steel will figure largely only in the industrial edifices, and there will be a great demand for bars for re-inforcing concrete. Whereas there will in general be little importation of the heavier building material, there will certainly be a large demand for the machinery and equipment of all sorts of industrial plants—especially textile mills, sugar manufactures, metallurgical plants, mines, manufactures of machinery and machine tools.

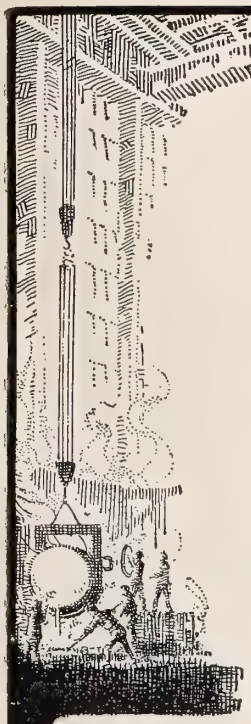
Big Mill for Calgary

Alberta Flour Mills, Limited, Are Proceeding With Erection of Plant in East Calgary

Among the important developments in the industrial field during the past few weeks, states the *Monetary Times* of Toronto, is the organization of the Alberta Flour Mills, Ltd., the stock of which is being sold by the Manitoba Finance Corporation. The company has under construction what will be a very large flour mill in Calgary, Alta. The new plant will have a capacity of 6,000 barrels of flour a day and the storage elevator will have a capacity of one million bushels. The capital of the company is fixed at $5,000,000. Of this sum $2,500,000 will be in the form of bonds, and this amount will be supplied from London, England, by a corporation known as the Investment Registry. The balance of $2,500,000 is in the form of common stock, and it is the intention of the directors to place all this stock in the prairie provinces, with the exception of such amounts as may be incidentally placed by the directors among personal friends in other parts of the world.

It was the original intention of the Alberta people who are interested in this enterprise, to secure practically every dollar needed for the purpose in the Province of Alberta. This was found impracticable owing to successive crop failures, and it was decided to endeavor to place at least $500,000 in the Province of Manitoba. The Province of Alberta has already, in spite of conditions which obtain there, subscribed a million. If Manitoba takes at the present time half a million, there will remain one million still to be sold, and it is expected that this will be distributed among the four western provinces. Vancouver is interested, since the city hopes that a considerable quantity of the grain ground in Calgary may be shipped through that port, and people there have volunteered, if given the chance, to push the project along.

The stock is being sold at $100 a share, 25 per cent. on application, 25 per cent. on allotment, and the balance within 90 days. Considerable of the work has been done on the mill and elevator. The site is on ten acres in east Calgary, and connection is made with all three transcontinental railways there. It is the expectation that the $500,000 worth will be placed in Manitoba within thirty days and that the campaign will be over before the selling of Victory Bonds begins. The president of the company is Mr. George Lane, and the vice-president is Mr. A. E. Cross, two well-known Alberta residents.



Are You Sure it is Right?

—that oil, water, or even more complex material you are using in your manufacturing? Has it the requisite properties? Are you ***positive*** it is doing what you think it is?

Every manufacturer some time or other has doubts, which, in the interests of his business, he dare not disregard.

It is our daily work to analyze and test all commercial materials, reporting exact and detailed facts and figures.

Our well equipped laboratories and thoroughly practical chemists are at your service at all times

THE LARGEST AND BEST EQUIPPED COMMERCIAL LABORATORIES IN CANADA



MILTON HERSEY COMPANY, LIMITED

Industrial Chemists, Engineers and Inspectors
MONTREAL and WINNIPEG

ELECTRICAL SUPPLIES

ALWAYS IN STOCK



FOR IMMEDIATE DELIVERY

EDISON MAZDA LAMPS
WIRE, CORDS AND CABLES
WIRING DEVICES, ALL KINDS
CONDUIT AND FITTINGS
SQUARE D SAFETY SWITCHES
SQUARE D MOTOR STARTERS
ECONOMY FUSES
EMERSON FANS
LIGHTING FIXTURES
LAMP GUARDS
LAMP REFLECTORS
DOUBLE-SURE TAPE

McDONALD & WILLSON Limited

347 YONGE STREET - TORONTO

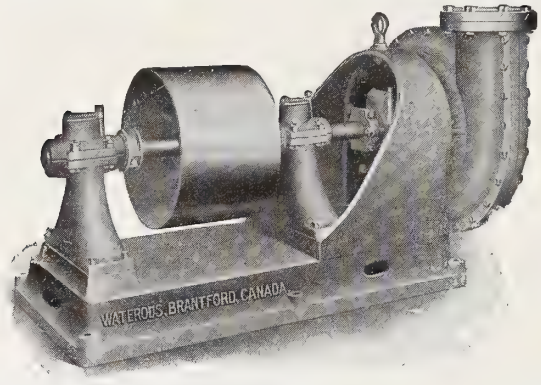
Waterous
BRANTFORD, ONTARIO, CANADA

Pumps for Every Purpose

will handle foaming, non-foaming and precipitating liquors, pulp stuff and water containing suspended matter up to 20 per cent.

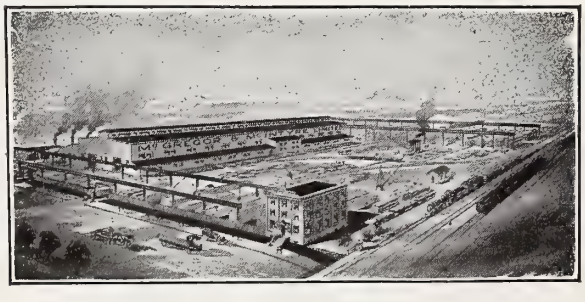
Recommended for Pulp Mills, Chemical Works, Sugar Factories and Refineries, Tanneries, Glue and Gelatine Works, we build a contractor's pump that is just right for the work.

BOTH HORIZONTAL AND VERTICAL TYPES
CAPACITIES UP TO 1,200 GALLONS PER MINUTE



The WATEROUS ENGINE WORKS CO., Ltd. BRANTFORD CANADA

STRUCTURAL STEEL
and
BRIDGE BUILDERS



We build and erect all kinds of Structural Steel, Bridges, Roof Trusses, Bank and Office Railings, Stair Work, Elevator Grills, Fire Escapes, etc.

Over 5,000 Tons in Stock of
Beams, Column Sections, Angles, Tees, Plates, Bars, Checkered Floor Plates, etc.

McGregor & McIntyre, Limited
1139 SHAW ST. TORONTO, CAN.

BETTER LIGHTING FOR FACTORIES

Good electric lighting speeds up production, reduces spoilage, prevents accidents and conserves man power. General requirements of good lighting are set forth and its economic advantages explained. A record of tests that were made in Canadian factories.

By Thomas F. Chantler.
(From "Safety Engineering.")

Without sight, manufacturing would be impossible. Without light man's efforts at manufacturing would be worthless. And with only a "dim, religious light" to guide his efforts man's manufactured product proves to be almost as much of a liability as an asset.

These are things so obvious that no manufacturer would care to confess that he had not known them always. Nevertheless, it required the repeated urgings of our Allies in the war for more and yet more speed in furnishing supplies to arouse employers generally to a recognition of the criminal extravagance of poor lighting in shop, factory, mill, mine and shipyard.

Four States, Wisconsin, New Jersey, Pennsylvania, and New York, already have lighting codes supported by the legislation necessary for their enforcement. And from the art of aiding man's efforts by truly good illumination a definite science of lighting is rapidly being evolved. Also insurance companies writing workmen's compensation policies are advocating good lighting as a safeguard against accidents. Scientific bodies are pointing out the injuries to the eyes and health of the worker traceable to poor lighting. Finally, it is being shown by facts and figures deduced from actual tests that good lighting actually does serve to speed up production, reduce spoilage, prevent accidents and conserve man power in manufacturing and industrial lines.

No Denying Importance of Question

Few men if any are in a better position to recognize the requirements of American manufacturing as a whole than the Hon. William C. Redfield, Secretary of Commerce, and he has been quoted as saying:

"I confess it seems to me somewhat surprising in this day that anyone should doubt the necessity of proper industrial lighting. Lighting of the very best kind has a double value in industry. It has, in the first place, a direct bearing upon the quality and quantity of output and it has, secondly, quite as important, perhaps more so to the community, a direct effect upon the man who does the work. If he must work under eye-strain, he not only cannot do as good work and can only do less work than otherwise he would, but he does it with direct injury to his own future working capacity. From a human standpoint, therefore, it is a social wrong not to provide ample light. From an industrial standpoint, the investment in light is one of the most sensible a manufacturer can make."

And when it comes to expressing the sentiments of labor itself regarding the workers' need for adequate lighting what could be more illuminating than this utterance by the venerable Samuel Gompers:

"Good factory lighting has proved a sure means of forestalling accidents to workmen, and I am glad that American industry is waking up to this fact."

But in addition there are what might be termed dollars-and-cents reasons why the manufacturer should do everything possible to supply his workers with the best illumination available. Good lighting has been definitely shown to contribute to the prevention of accidents and the consequent reduc-

ALCOHOL



Plant of Canadian Industrial Alcohol Company Limited, Corbyville, Ont.

With a capacity of 450,000 (proof) gallons per month we are the largest producers of Alcohol in Canada.

Manufacturers of vinegar, perfumes, essences, pharmaceutical preparations, etc., are invited to write us for prices of Alcohol suitable for their particular line of business.

We make a special feature of contracting for the requirements of manufacturers for the year or season, thus providing not only a uniform cost but also a steady supply as needed.

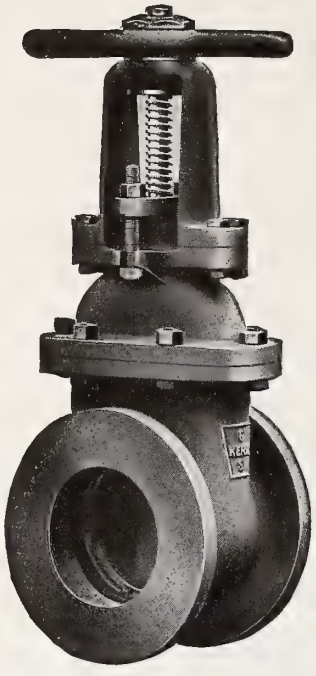
Those who are using Duty Paid Alcohol in their manufacturing processes would do well to consult us with a view to using it "In Bond," thus avoiding the use of two-year-old Alcohol. Under the rules and regulations of the Department of Inland Revenue, newly made Alcohol may be used "In Bond." This Alcohol is much cheaper than two-year-old.

METHYLATED SPIRITS or Denatured Alcohol is sold only by the Department of Inland Revenue, Ottawa, Ont., but any other kind of Alcohol may be secured from us.

CANADIAN INDUSTRIAL ALCOHOL COMPANY LIMITED

MONTREAL, QUE.

Kerr Iron Body Gate Valves



embody all that is modern in gate valve construction. Strong, compact and pleasing in appearance.

Every valve tested and guaranteed.

THE KERR ENGINE CO., Limited
Valve Manufacturers :: Walkerville, Ontario

What kind of a Boiler do you need ?



We make all types—here in St. Catharines — RIGHT!

Engineering & Machine Works of Canada, Limited

St. Catharines Ont.

Eastern Sales Offices:
Hall Machinery Co., Sherbrooke, Que

tion in insurance company rates for workmen's insurance. President Butler, of the Travelers Insurance Company, says:

"Insufficient or improper illumination is a direct or contributory cause of many accidents in workshops. This is a proven fact which is recognized by the Travelers Insurance Company in its rating schedules under workmen's compensation practice."

Again, and referring to New Jersey, one of the States boasting a Lighting Code, Lewis D. Bryant, Commissioner of the Department of Labor, has been quoted as saying:

"If a workman is injured, and poor light is the cause, he will surely receive compensation. On the other hand, if a workman ruins his eyes by constant work under poor light so that he is incapacitated for further work, it will be difficult for him to obtain fair compensation. He is disabled because of his occupation just as surely as if he had lost an arm or leg at his daily task. It is the duty of every employer to provide good light as a guard against accidents and eye trouble."

By way of substantiating the foregoing opinions regarding the need for better lighting it is pertinent to refer to the statements of R. E. Simpson, of the Travelers Insurance Company, in a paper presented before the Illuminating Engineering Society on October 10, 1918 :

"A survey of 91,000 accidents from the records of the Travelers Insurance Company for the year 1910 showed that 23.8 per cent. were due to improper or inadequate illumination."

The same authority explains that it is hardly possible that this percentage prevails at present, due to the progress in illumination, but he goes on to say:

"There is some foundation, however, for assuming that 18 per cent. of our industrial accidents are due to defects in the lighting installation. On that basis the services of 108,000 men for one year are lost anually, because the illumination provided is not adequate for the safety of the workman."

What constitutes good lighting? That, doubtless, is the question uppermost in the mind of the reader who has grasped the significance of the opinions and the figures given. And doubtless one's unaided answer to that question would be, "Light without stint." But the sun's light is without stint, so to speak; and we all know of the many instances when it is too intense and too abundant, is a definite source of pain and injury to the eye. So a more nearly correct definition would be: An equivalent of diffused daylight, both in intensity and color of lighting. But we still fall short of the mark. Daylight is of many degrees and varieties, some of which occasion almost as much eye-discomfort as direct sunlight.

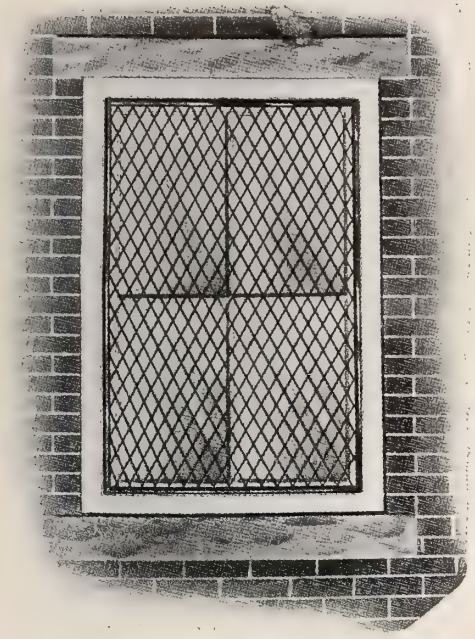
When the Light is Ideal

Now it is generally conceded that the ideal lighting occurs on a cloudy day when light from the sun must pass through a screen of vapor and clouds before reaching us. So it would seem that Nature, herself, is at her best when supplying a *semi-indirect* form of lighting.

When, as on a clear day, the suns rays fall directly upon us Nature might be said to be supplying a *direct* form of lighting. And when man and Nature combine to have the direct rays from the sun reflected from outside a building through windows against which actual rays do not strike, an *indirect* system of lighting is obtained.

The lighting codes of New York, New Jersey, Pennsylvania, and Wisconsin all vary somewhat, one from the other; and other States as they come to adopt codes may make certain conditions peculiar to their own interpretation of the requirements. However, the general requirements of good lighting may be given simply and briefly.

1. There must be on all working surfaces, whether in horizontal, vertical or oblique planes, a steady light of sufficient intensity for all working requirements.
2. A light on areas and walls adjacent to the working area comparable in intensity to the light on the working areas.



Wire Window Guards

Wire Machinery Guards

Wire Partitions—for Tool-rooms and Stock-rooms

Wire Screens

Wire Cloth

Heavy Wire Baskets

C. H. JOHNSON & SONS, LTD.
Wire Works: St. Henry, Montreal

Dominion Copper Products Company, Limited

Manufacturers of

COPPER AND BRASS

Seamless Tubes, Sheets and Strips in all Commercial Sizes

Office and Works: LACHINE, Que., Canada

P.O. Address: MONTREAL, Que. Cable Address: "Domcopper."



W. C. Macdonald, Reg'd
Incorporated
MONTREAL - CANADA

SINGLE LOOP



CROSS HEAD



WIRE BALE TIES HOLD FAST

No loss through broken bales. Whatever your bailing products we have a tie that will do the trick.

Wire, wire nails, mattress wire, fine galvanized, tinned or coppered wire, fence and poultry netting staples.

The Laidlaw Bale-Tie Company
LIMITED
HAMILTON, ONTARIO

A. T. DIGGINS, Stair Bldg., Toronto, Ont.
H. E. O. BULL, Montreal, Que.
HARRY F. MOULDEN, Winnipeg, Man.

(Note: When a lighted area is too sharply in contrast with darker surrounding areas the worker's eyes are taxed unduly every time he has occasion to look away from the lighted area, the eyes being required to focus violently in accommodating themselves to the transition.)

3. The light must be of a color and specular character suited to the purposes for which it is employed. (Note: An object is seen by the light it reflects, rather than by the light falling upon it. A white or light-colored surface reflects more light than a dark one. But all classes of work do not require the same intensity of lighting. Again, red and yellow light rays have greater penetrating power than blue rays, and that fact must be observed in lighting places like foundries having heavy cloudy atmosphere. But, on the other hand, the moulder requires less light than the tool maker. The actual lighting requirements according to the character of the work, may range from ½ to 15 foot candles.)

4. There must be freedom from glare and from glaring reflections. (Note: The meaning of glare can be suggested easier than it can be defined. According to the dictionary one is experiencing what is meant by "glare," as used in the terminology of lighting, when such conditions as these are to be noted: (1) To shine with fierce intensity, (2) to be unpleasantly brilliant or gaudy, (3) emitting an excessively brilliant light, (4) having a glossy, smooth surface, (5) a dazzling light. However, those definitions are not wholly above criticism. For example, the automobile headlight which dazzles, and at night may truthfully be said to "shine with fierce intensity, to be unpleasantly brilliant and to constitute a dazzling light." But when that same automobile headlight is viewed against a background of daylight it is not to be recognized by any such definitions. Also, there are conditions under which glare is present in sufficient degree to work injury to the eye without the mind being acutely conscious of its effect. Someone, too, has said that just as dirt is matter out of place glare is light out of place.)

6. The lighting equipment should comprise a system which is reliable, simple, easy of maintenance and reasonable in initial and operating cost.

Now the spirit and letter of those six stipulations are easily within the financial reach of all employers of labor, and the rewards to those providing truly good lighting are certain.

The Lighting Committee of the Commonwealth Edison Company, of Chicago, recently conducted tests to secure figures which would establish the value of good lighting in definite terms. Four of those tests have become, temporarily at least, classics in the annals of progress in illumination.

Tests in Iron Pulley Finishing Shop

This shop finishes iron pulleys, both large and small, and is some 40 by 80 feet in extent, giving an area of 3,200 square feet. As found, the illumination was largely by 60-watt lamps on drop cords, a few only being fitted with miscellaneous tin shades of the cheapest varieties. The consumption of electricity amounted to 0.27 watt per sq. foot; and the illumination therefrom averaged about 0.2 foot candle. But this light, of course, varied tremendously in intensity; one operator having something like 22 ft. cdl., while others groped about in a "spooner's" light of about 0.07 ft. cdl. The daylight effect, except on one or two machines, was negligible, the windows being few and dirty.

The installation the lighting committee installed consisted of 200 watt, reflector-equipped units mounted some 10 feet above the floor. The electrical consumption was increased almost 7 times, and the average illumination approximately 25 times.

The testing engineer's own records showed an average increase in production of 20 per cent. The proprietor also kept a set of records; and according to his figures the increase in production amounted to 35 per cent.

The cost of the improvement, with due allowance for depreciation, upkeep, etc., added 5½ per cent. to the monthly

MORROW'S

THE BETTER KIND

Set Screws	Boiler Patch Bolts	Planer Head Bolts
Cap Screws	Thumb Screws	Coupling Bolts
Collar Screws	Stay Bolts	Semi-Finished Nuts
Engine Studs	Fillister Head Screws	Brass Nuts

Special Screw Machine Work Made to Sample or Print--U.S.S. or V or Whitworth or S.A.E. Thread

MORROW TWIST DRILLS will drill more holes with less re-grinding. Insist on being supplied with MORROW products and be sure of satisfaction.

INGERSOLL (INGERSOLL FILES FOR QUICK RESULTS) **CANADA**



THE BEST FIRE PAILS FOR YOUR FACTORY—

EDDY'S INDURATED FIBREWARE

Because—they are light, easy to handle and practically everlasting.

The round bottom prevents their use for any other purpose than for fire. They are always ready and in their appointed place if required.

They are absolutely non-leakable and will never rust, rot, or fall to pieces.



Your Hardware Dealer sells

Eddy's Indurated Fibreware

The E. B. EDDY CO. Limited

HULL, CANADA

ESTABLISHED 1850

DID YOU EVER NOTICE

that jarring, grinding noise in your machine shop caused by the metal gears?

Wouldn't you like to stop that noise? You can do it by using

NEW PROCESS GEARS
RAWHIDE PINIONS

They last indefinitely too

Ask us about it?

R. GARDNER & SON, LIMITED
Nazareth, Brennan and Dalhousie Streets
MONTREAL

MALLEABLE IRON
CASTINGS

HIGH TENSILE STRENGTH

GALT MALLEABLE IRON CO.
LIMITED
GALT ∴ ONTARIO

payroll. In other words, from 20 to 35 per cent. increased production at a cost of 5½ per cent. of the payroll.

This shop measures 48 by 50 feet. Practically the only change found necessary had to do with increasing the size of the lamps, the equipment and layout of the lighting system being declared satisfactory.

Test in a Soft-Metal-Bearing Machine Shop

In this shop, to begin with, 25 deep-bowl reflectors were equipped with 100-watt lamps giving an illumination of 4.6 ft. cdl., the consumption of current being about 1 watt per sq. foot. The shop was run with this equipment, for one month, the management's regular records proving quite sufficient to show output accurately.

At the end of one month, the 100-watt lamps were replaced by 200-watt gas-filled lamps, raising the consumption of current to 2 watts per sq. foot. But because of the greater efficiency of the lamps the illumination was raised to nearly 13 ft. cdl.

It was the intention to revert to the original lighting intensity for the third month, and then back to the increased inensity for the fourth month. But after the second month's experience, using the daylight level of improved lighting, the management flatly refused to go back to the original equipment of 100 watt lamps. They held that the increase in their production as made possible by the improved lighting was vastly more important than the testing engineer's desire to secure entirely unbiased data.

The increased efficiency and production was determined by a study of eight operations. The increase ranged from 8 to 27 per cent., the average increase being 15 per cent.

The high percentage of increase secured through improved lighting is of particular significance in this instance, because the original equipment of 100 watt lamps supplied a measure of illumination held to be at least 20 per cent. superior to that of industrial lighting generally.

Test in Machine Shop Handling Heavy Steel Parts Used in Truck

This shop measured 40 by 58 feet. The same number of lighting units, reflectors and accessories were used for the improved lighting as had been employed originally. The only change was from 100 watt gas-filled lamps requiring a consumption of 0.6 watt per sq. ft. and having a lighting intensity of 3 ft. cdl. to 300 watt lamps consuming 1.7 watt per sq. ft. and giving nearly 12 ft. cdl.

The improved lighting resulted in an increase of from 6 to 14 per cent. in three operations, the cost of productive intensity being 1½ per cent. of the pay-roll.

Test in Carbureter-Assembling Shop

This shop measured 50 by 80 ft. In the work of assembling carbureters the operators handle rather small parts and make delicate adjustments. The management fully appreciating the importance of good lighting had installed equipment well above the average even before the test was made.

The old equipment comprised 100 Mazda lamps, principally of the 40 watt size giving an average illumination of a trifle over 2 ft. cdl. For the productive intensity runs, the 100 units were replaced by 29, nearly doubling the consumption of current, but increasing the intensity nearly six times.

This test was made just after the signing of the armistice, but despite the previous efforts of the management to speed production and the uncertainty regarding the need for continuing to speed production occasioned by the cessation of hostilities, the productive intensity of the shop was increased



XXX GENUINE ARCTIC METAL



IS

The Best Babbitt Manufactured

FOR

Bearings that carry extraordinary heavy loads

SPECIALLY ADAPTED FOR

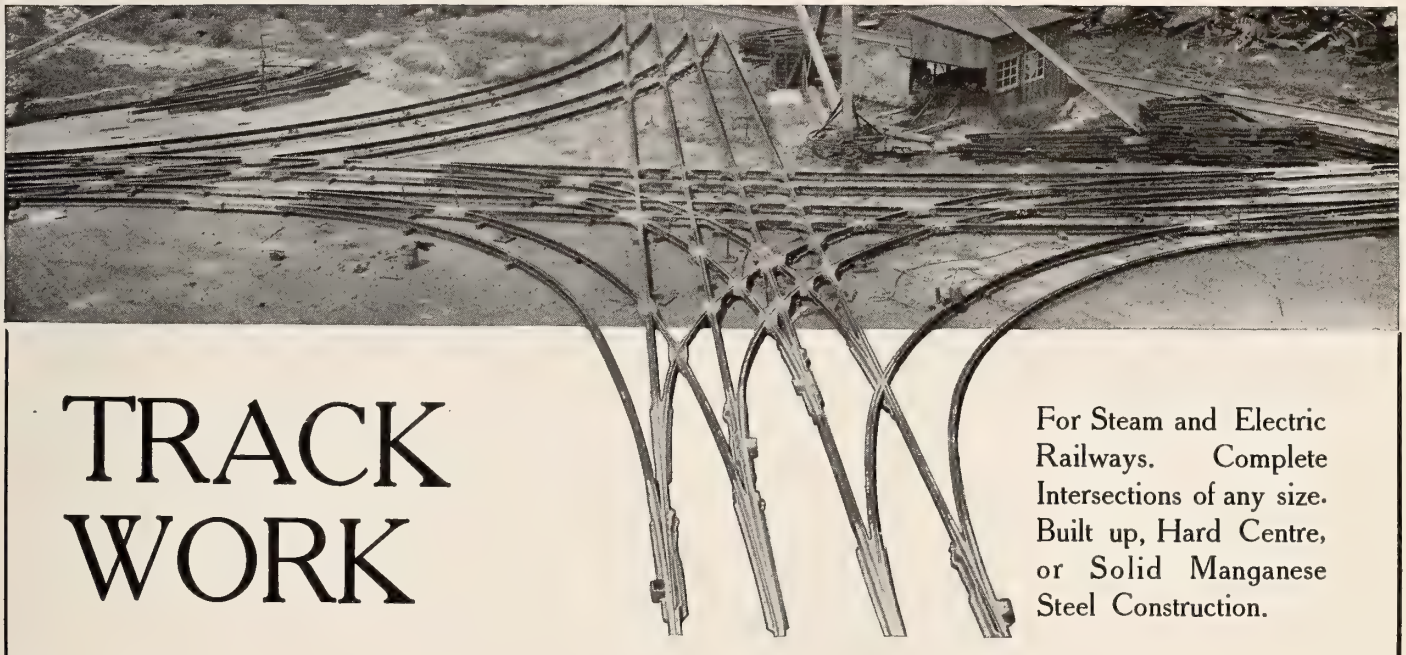
Marine and Automobile Engines

Always runs cool



Tallman Brass & Metal Limited
HAMILTON, ONT.





TRACK WORK

For Steam and Electric Railways. Complete Intersections of any size. Built up, Hard Centre, or Solid Manganese Steel Construction.

CANADIAN STEEL FOUNDRIES, LIMITED

TRANSPORTATION BUILDING, MONTREAL

A Plant Equipped In Every Detail To Suit Your Every Need



STEEL PRODUCTS
Open Hearth, Basic and Acid, Electric and Alloy Steels

CASTINGS
For Ships, Railways, Rolling Mills, Gears, Machinery and Ingots to 35 Tons

RAILWAY SPECIALTIES
Penn Couplers, Bolsters, Truck Side Frames, Draft Gears

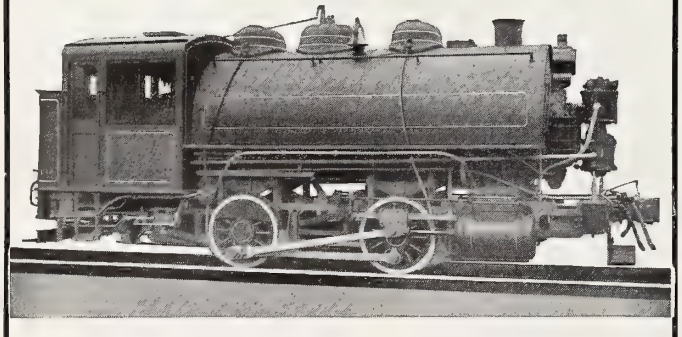
FORGINGS AND BILLETS
Heavy Ship Forgings, Locomotive and Car Axles, Miscellaneous Forgings

PLATES
Plates and Heavy Sheets to 30 inches wide, Soft and High Carbon, Automobile Plates and Sheets

AGRICULTURAL STEEL
Soft Center and Solid Plow Steel, Harrow Discs, Shovel Steel, Cultivator Blades

DOMINION FOUNDRIES AND STEEL LIMITED
HAMILTON - CANADA

PUT YOUR PROBLEM UP TO US



We are specialists in building locomotives. We build all types and sizes, also all kinds of repair parts for locomotives and tenders.

Our experience puts us in a position to give you expert advice as to what particular type and size of locomotive is best suited to your needs.

Put your locomotive problem up to us.

MONTREAL LOCOMOTIVE WORKS, LIMITED
DOMINION EXPRESS BUILDING MONTREAL, CANADA

12 per cent. Because the number of workmen was large and the rate of wage high, the increased production was secured at a cost of only 0.9 per cent. addition to the payroll.

The Candle as a Unit of Measure

Doubtless all are familiar with the term "candle power," but probably few aside from those having made a study of lighting are precisely informed as to the exact significance of that term. Nevertheless, the explanation is within the understanding of even the school boy and may be given in a few words.

When new light sources began to take the place of the candle it was but natural that their superior illuminating power should be expressed in terms of the candle familiar to all. Doubtless early comparisons were made by setting up the candle and the lamp in the line of vision and gauging them by means of the eye, the most natural direction in which to look at the illuminants being the horizontal. The strength of the new illuminants were rated as being the equivalent of so many candles. Thus when we say to-day that a lamp is of 10 candle power we really mean that its lighting intensity or strength in a horizontal direction is equal to that of a group of 10 standard candles. The one essential to remember in this connection is that the stated candle power of a lamp represents the intensity in one direction only, it does not indicate the total quantity of light emitted by that source.

The mean spherical candle-power of a lamp means simply the average of all the candle powers in all directions about that lamp. That is to say, a source giving 1 candle-power of light in every direction would have a mean spherical candle power of 1. Or if the intensity of light in different directions varied but the average of all was the equivalent of 1 candle in intensity, then this source, too, would have a mean spherical power of 1.

The foot-candle is the unit of measurement most intimately associated with the popular understanding of lighting. A foot-candle represents an intensity of illumination equal to that produced at a point on a plane which is 1 foot distant from a source of 1 candle and which is perpendicular to the light rays at that point.

How Light is Measured

A crude idea of the foot-candle of illumination can be obtained by considering the intensity on a newspeper being read by the light of 1 candle, the paper being held 1 foot away from the candle. Two candles would give 2 foot candles of light under similar conditions; 3 candles would give 3, and so on.

The lumen is the unit for measuring the quantity of total flux of light emitted by a source. This can be explained by imagining a sphere measuring 2 feet in diameter on the inside and painted black, so that light falling upon the inside surface of the sphere from a candle placed exactly at the centre will be absorbed and none of it reflected. Now if an opening measuring one square foot be cut in the sphere the amount of light that escapes is considered to be the unit of quantity, and is called a *lumen*. If 2 candles are used then 2 lumens of light will be emitted, and so on. By geometry it is known that the total surface of a sphere having a diameter of 2 feet is 12.57 square feet. Thus if the mean spherical candle power of a lamp is known we have only to multiply this value by 12.57 in order to obtain the number of lumens emitted by that lamp.

By the foregoing operations it is shown that the intensity of light falling upon 1 square foot of the inside surface of a sphere 2 feet in diameter and having a candle placed directly

Every Member of Our Organization is an Active Worker, co-operating to produce Results

Results mean Satisfied Owners

JOHN V. GRAY CONSTRUCTION CO., LTD.
GENERAL CONTRACTORS
625 Confederation Life Building - - - - TORONTO, ONT.

ARE YOUR STEAM PIPES INSULATED?

IF NOT YOU ARE BURNING MONEY

A GOOD COVERING pays for itself in one Season, and is a revenue producer indefinitely. The Best is the Cheapest **WE HAVE IT**

EUREKA MINERAL WOOL & ASBESTOS COMPANY
118 ADELAIDE STREET WEST, TORONTO, ONTARIO

JULIUS COHEN & JOSEPHY

Foreign Domestic **WOOL** *Noils, Wastes and Shoddy*

Also operating THE YORKSHIRE WOOL STOCK MILLS, ALMONTE, ONT.
Manufacturers of Pulled and Carded Shoddies

H. V. ANDREWS Canadian Representative **13 Church St., Toronto**

ELECTRIC STEEL CASTINGS

WE CAN SUPPLY

Carbon Manganese, Alloy, Steel Castings Forging Ingots, Etc.

Write for prices and particulars

The Electric Steel and Metals Company, Limited
WELLAND, ONTARIO

Shurly & Derrett
Limited
TORONTO



Manufacturers of

Twines Cotton and Jute Rope



You Pay for Good Wire

whether you use it or not. If you buy a cheap wire whose quality is kept down to meet a price instead of up to meet a standard, you may pay several times the cost of good wire in replacement of your wiring or the building in which it is installed.

"Sterling" Rubber Insulated Wire

is kept up to a high standard of dependability and is sold at a reasonable price that makes it available for the cheaper class of buildings. It has always exceeded the requirements of the N. E. C. by a liberal margin, which constitutes the purchaser's insurance against the defective wire risk.

Write our nearest office for samples and prices

Standard Underground Cable Co. of Canada, Limited

General Offices and Works:

Hamilton, Ont.

Montreal, Que. Toronto, Ont.
Hamilton, Ont. Seattle, Wash.

at its centre is 1 foot candle. We also know that the quantity of light direct from the candle which falls upon 1 square foot of the surface of that sphere is 1 lumen. This gives us the important law that when 1 lumen is so utilized that its total light is spread over a 1 foot square surface, that surface is lighted to an average intensity of 1 foot candle. Through this relation the designing of a lighting installation is greatly simplified. Because once the number of square feet to be lighted and the required intensity of illumination are known, it is easy to determine how many lumens must fall on the working plane. To illustrate, should it be necessary to illuminate a working surface of 100 square feet to an intensity of 5 foot candles, 500 lumens must be utilized.

Facts the Man Interested in Better Lighting Should Know

The methods of artificial lighting have been mentioned previously in connection with Nature's way, but it will not be amiss to point out that lighting, to begin with, is either local or general. Sometimes, too, both systems are combined. The form of light-distributing may be either (1) indirect, (2) semi-indirect, (3) direct.

Indirect lighting screens source of light and allows only reflected light to reach the working plane.

Semi-indirect lighting screens source of light but allows a certain amount of light to diffuse through shade.

Direct lighting requires that a shade or reflector be placed around the light so that direct and reflected light are thrown on the working plane.

Diffusion of Light is Essential

Adequate diffusion is held to be absolutely essential to good lighting. That is to say, the light at any one point should come from a number of different directions so that shadows are soft and transparent. Also, the lighting must be in sufficiently large areas to occasion only soft shadows and at the same time be small enough in area to afford ample direct light. As a general rule, too, light walls and ceilings add to the general efficiency of the lighting, and save eye-strain by minimizing contrasts between working light and that which lies about it.

Daylight of Winter Seldom is Adequate for Inside Work

The outside light on a bright summer day has been estimated to equal the equivalent in intensity of 5,000 foot candles. Work is generally possible inside a building with a daylight factor of 1/10 of 1 per cent. or 5 foot candles. But British tests have shown that on the average December day the outside daylight does not exceed 750 foot candles even at noon. Hence on the basis of 1/10 of 1 per cent, the inside factor will be less than 0.75 foot candles during practically all daylight hours during the winter. It is estimated by the way, that the proportion of outside light which reaches the inside of a building through windows seldom reaches 10 per cent., and very frequently is as low as 1/10 of 1 per cent. at various points.

Light Required Should be Determined by Competent Authority

One thousand foot candles doubtless would be insufficient illumination for threading a needle if the needle be held against a steel-gray background. But if the needle be held against a white background, ½ foot candle light is ample. The man best equipped to determine the details of the lighting equipment is of course the man best informed regarding the available lighting expedients and requirements—the illuminating engineer, that is to say.

THE NICHOLS CHEMICAL COMPANY, LIMITED

MANUFACTURING CHEMISTS

HEAD OFFICE: 222 ST. JAMES STREET, MONTREAL

Branch Office—120 Mill Street, Toronto

WORKS: Capelton, Que., Sulphide, Ont., Barnet, B.C. WAREHOUSES: Montreal, Toronto

Sulphuric Acid	Sulphate Soda	Glauber's Salt	Bleaching Powder
Muriatic Acid	Sulphide Soda	Blue Vitriol	Tri-Sodium Phosphate
Nitric Acid	Hypo-Sulphite Soda	Sulphate Alumina	Ammonia
Hydrofluoric Acid	Bi-Sulphite Soda	Papermaker's Alum	Salt Cake
Mixed Acid	Phosphate Soda	Caustic Soda	Tin Crystals

Agents for Baker & Adamson's Chemically Pure Acids and Chemicals

AGENTS FOR CANADIAN SALT CO.—"WINDSOR" BRAND CAUSTIC SODA & BLEACHING POWDER

SMALL GREY IRON CASTINGS

BY SPECIAL PROCESS

Giving a Smooth, High-grade Casting for Enameling and Nickel Plating

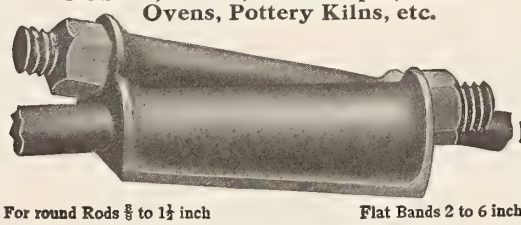
Rubber Manufacturer's Equipment, Cast and Machined

CANADIAN-RUMELY CO., Limited

48 Abell Street - Toronto, Ont.

LUGS FOR BANDS

On Silos, Tanks, Water Pipes, Penstocks Ovens, Pottery Kilns, etc.



Ask for Price List

For round Rods $\frac{5}{8}$ to $1\frac{1}{2}$ inch Flat Bands 2 to 6 inches wide

Best Malleable Iron—Prompt Shipments.

OTTERVILLE MFG. CO., LIMITED

OTTERVILLE, ONT.

STEEL FRAME BUILDINGS

Roof Trusses, Columns, Fire Escapes, Stairs, Ladders, etc.



Plain Steel Shapes, I-Beams, H-Beams, Channels, Angles, Tees, Zees and Bars, Plates and Sheets

THE MARITIME BRIDGE COMPANY, LIMITED

New Glasgow - Nova Scotia

MR. CANADIAN MANUFACTURER!

Why Buy in United States

SILICA BRICK, COKE, STEAM COAL ?

When Canadian Materials are Available at Lower Prices

STINSON-REEB BUILDERS' SUPPLY CO., LTD., MONTREAL



Made in Canada *From British Stock*

"GENUINE OAK"

LEATHER BELTING

"D.K."

BALATA BELTING

Guaranteed to Give Satisfaction

D. K. McLAREN LIMITED

TORONTO MONTREAL ST. JOHN, N.B

849 Beatty Street, VANCOUVER

LEATHER BELTING

Made in Canada

J. L. Goodhue & Co., Limited

DANVILLE, QUEBEC

Manufacturers of

SUPERIOR QUALITY LEATHER BELTING AND LACE LEATHER

QUALITY

Not Price Our Aim

Canadian Manufacturers SHOULD USE Canadian Belting

Winnipeg Agents:
BISSETT & WEBB, Limited
126 Lombard St.
Winnipeg, Man.

Vancouver Agents:
FLECK BROS., Limited
54 Cordova Street East
Vancouver, B.C.

Montreal Agents

STANDARD MACHINERY & SUPPLIES, Ltd.

260 ST. JAMES ST., MONTREAL

SALVAGING THE SCRAP HEAP

A good deal of attention is being given in up-to-date plants to the reclamation of materials and supplies that were formerly regarded as useless scrap, and which were sold at an insignificant figure. There are many instances of savings, secured by an intelligent study of this problem, which vary in value from a few hundreds to hundreds of thousands of dollars.

By Johnson Heywood.

(From "Factory, the Magazine of Management.")

After everything possible has been done to prevent making scrap, it becomes necessary to realize the greatest possible value out of such material as has found its way to the scrap pile.

This can be done in one of three ways, depending upon the product and the nature of the scrap:

1. A way may sometimes be found to utilize the waste material in the product.
2. New products may be added for which the scrap can be used as the raw material.
3. Steps may be taken to make the scrap worth more when they are sold.

The way one shop utilized its cast-iron chips and borings is an example of the first method. It had been the custom to dispose of this waste to the junkman, but when the price of No. 2 pig iron went to $48 a ton, and the borings brought only $8, even before freight was deducted, a serious attempt was made to remelt this scrap in the shop cupola.

It was soon found, though, that chips and borings thrown into the cupola burned up instead of becoming molten. All castings poured from a mix containing even 5 per cent. of such borings were either badly pitted or else filled with spots so hard that to machine them was impossible.

Handling Chips and Borings

The problem this shop faced, therefore, was how to heat the chips and borings slowly enough to cause them to melt, but not burn. Borings could, of course, be heated separately from the pig and scrap iron in a small blast furnace, but the additional cost of this double handling made the method inadvisable.

It was decided to put the borings under pressure and press them into a solid mass resembling an ingot, so an experimental press was rigged up. A hollow steel container about 20 inches long, with an inside diameter of 6 inches, and open at both ends, is secured to a movable slide, which keeps the container always centred below the ram which is attached to the headblock. A steel slab, 1½ by 7 by 15 inches, in one end of which is a circular opening, 6¼ inches in diameter, is so placed on the ram-cap of the press that either the opening or the solid end may be slid under the container.

This container is charged by means of a sheet-metal hopper which contains several hundred pounds of chips and borings. The flow is actuated by gravity and controlled by a simple sliding gate. After the container has been filled, a small quantity of salt water is added and the contents rammed by hand. Pressure of approximately 6,000 pounds to the square inch is then applied. When compression has ceased the pressure is removed, the steel slab on the ram-cap moved so that the opening in the slab is directly below the opening in the container. Pressure is again applied and the borings are forced out of the container through the opening in the slab to a receptacle below. The salt water causes



Cut of 60-inch "Extra" Double Belt
Made by The J. C. McLaren Belting Co., Limited.

WE ARE HEADQUARTERS FOR ALL KINDS OF

BELTING
LACE LEATHER
CARD CLOTHING
REEDS AND
GENERAL
MILL SUPPLIES

ABSOLUTE SATISFACTION GUARANTEED

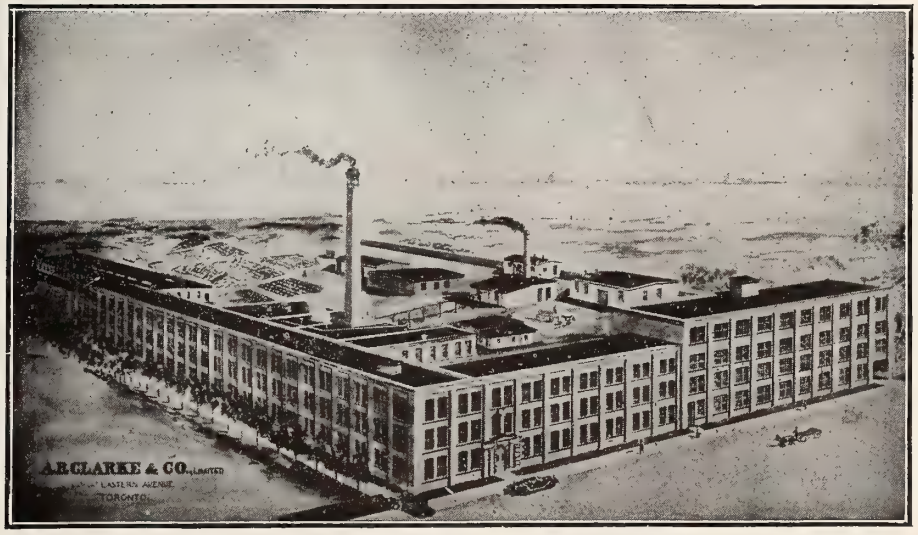
The J. C. McLaren Belting Co., Limited

ESTABLISHED 1856

Head Office and Factory
MONTREAL, Que.

Branches:
50 COLBORNE ST., TORONTO
80 LOMBARD ST., WINNIPEG

633-661 EASTERN AVENUE



ESTABLISHED 1852

The Largest Patent Leather Manufacturers in the British Empire

A. R. CLARKE & CO., LIMITED

MONTREAL TORONTO QUEBEC



With our greatly increased capacity we need your business.

A wheel for every purpose and satisfaction guaranteed.

Let us send our new Catalog and quote prices.

Dominion Abrasive Wheel Co., Ltd.

MIMICO. ONTARIO, CANADA.

DU PONT CANADIAN INDUSTRIES

LUXAR

Is a single or double-texture rubber-coated car top material—soft, pliant and tough—so well made and thoroughly inspected that it constitutes the ideal material for withstanding the changes and extremes of Canadian winters.

For either a pleasure or business car—**LUXAR** is a paramount success.

Let us send you details and samples

Du Pont Fabrikoid Co.

Sales Office, 63 Bay Street

TORONTO

DU PONT

rapid oxidation of the iron and in 12 hours the borings are dry, the mass hard and in a shape that is easily handled.

Borings in this form were made the object of several experiments, and a mix containing 25 per cent. of pressed borings was poured with excellent results.

From this small and rather crude arrangement a 50-pound block is pressed every two minutes, or approximately seven tons a day, at a total labor and expense cost of $1.10 a ton. When this method was first put into effect, loose borings brought only $8 a ton. Therefore, considering the total cost to be $9.10 a ton, we have the following cost of the new mix containing pressed borings.

In an average daily "pour" of 30 tons, there is used:

55%	No. 2 pig iron	16.5 tons at $48 00	=$792 00
25%	pressed borings	7.5 tons at 9 10	= 68 25
20%	scrap iron	6.0 tons at 15 00	= 90 00
100%		30.0 tons	$950 25

Prior to using the pressed borings, the mix contained:

60%	pig iron	18 tons at $48 00	=$864 00
40%	scrap iron	12 tons at 15 00	= 180 00
100%		30	$1,044 00

This gives an average daily saving of $93.75 by this simple plan.

Widely different in method but the same fundamentally is the way one automobile manufacturer used the packing cases in which some parts of his car are received. When he realized the great amount of good lumber being thrown out daily after these cases were unpacked, he drew up a careful set of drawings and specifications, and demanded that his supplier make all further cases to meet his needs.

He made slight changes in the dimensions, insisted that the cases be put together with screws instead of nails, and even specified the size of screws to be used and the exact location of every screw hole. When the accessory supplier received the specifications covering the cases, he agreed to ship in them but at a considerable increase in price.

Putting Boxes to Good Use.

The automobile maker was willing to pay extra for them, for by simply disassembling the packing cases, he is now able to use the sides, tops, and bottoms for floor boards for his cars without performing an operation on them. They fit even to the screw holes and the screws come with them. Thus he not only is saved the expense of making the floor boards but does not have a lot of practically worthless packing cases to dispose of.

In a hat factory waste ribbon is now used to take the place of material that formerly was purchased.

After the band of ribbon is put around the crown, a bow is sewed on the left side as a finishing touch. This requires two kinds of ribbon—what is known as 11-line and 12-line—one for the banding and the other for the bow.

Ribbon for the bands comes in rolls of approximately six yards, which leaves over a piece from four to six inches long on each roll which ordinarily is either thrown away or collected and sold for scrap.

Investigation showed that this piece could be used in making the cross-piece of the bow in place of the bow ribbon which was formerly used. Since a roll of ribbon bands a dozen hats, it is now possible to use the waste piece on one out of every four hats. In this hat factory, which turns out a normal production of 200 dozen hats a day the year

HEAVY CHEMICALS AND DYESTUFFS

The Grasselli Chemical Co.
LIMITED

Manufacturing Chemists

Toronto, Ontario

Branch Office: MONTREAL, QUE. Works: HAMILTON, ONT.

H. & D. Corrugated and Solid Fibre Board



CONTAINERS will save on your transportation charges, save your floor space, cut down packing expenses, and give you positive protection against loss from damage and pilfering. Write for prices and samples.

The Hinde & Dauch Paper Co. of Canada, Limited, Toronto, Canada



Forgings, Stampings or Pressed Steel Parts

AN attractive catalogue showing the facilities this Company has for producing **Forgings** and **Sheet Metal Parts**—particularly in large quantities, sent on request.

Dominion Forge & Stamping Co., Ltd.
WALKERVILLE, ONT.

MACDONALD MFG. CO., Limited
Toronto - Canada

Manufacturers of
PLAIN and LITHOGRAPHED CONTAINERS
for

Jam	Lard
Fruit	Oil
Vegetables	Paint
Meat	Varnish
Syrup	Tobacco
Butter	Talcum
Biscuits	Tea

Grocers' Sundries
Druggists' Sundries
Also Toys, Novelties, Tags and Advertising Signs

Well packed is half sold
Make your containers advertise you

Office and Works:
145 Spadina Avenue

round, the saving is about 6,000 yards of bow ribbon in a year.

In some instances material is so completely wasted that the scrap or waste is not even visible. The sewer or the river is the scrap pile.

That is particularly true in those industries using acids, chemicals and sundry materials of that sort. The savings to be made by reclaiming them is often well worth while because of their ordinarily high cost.

Waste of Enamel

A recent experience in an enamelware factory illustrates quite forcibly the undeveloped possibilities that often exist.

It was noticed that after the second coat of enamel had been applied, a girl wiped, with a wet sponge, the beaded edge of the various articles coated, so as to make it possible to apply an enamel of some other color on the bead.

The sponge was continually rinsed, and the enamel that had accumulated on it allowed to run to the sewer.

To prevent this, separate pails filled with water are now given to each operator, with instructions that she rinse her sponge in the pail. Several times a day the contents of the pails are poured into a larger receptacle. The enamel settles to the bottom, making it easy to siphon off the water.

A test was made for several weeks and it was found that 2.87 per cent. of the enamel used was reclaimed in this fashion. Furthermore, the enamel was ready for immediate reuse. It loses none of its properties.

Such a method is applicable to many industries. In fact, one superintendent says that in his business running water and the sewer are the greatest encouragers of material waste.

Quite similar is the saving of ink made in some printing plants. It may be worth telling to show how nearly universal the method is.

In large printing establishments the ink is "dipped" out of cans and applied to the ink plate of the presses. This "dipping" process almost invariably leaves a fraction of the ink, which is of a heavy consistency, in the can, around the sides and on the bottom. The cans can be soaked in a solution, which in turn is poured into a concentrating tub or larger can. When the ink has settled to the bottom the solution can be poured off and the ink used.

Intensive Study Brings Results

Usually a little intensive study of the product, keeping in mind the waste, will show many ways of utilizing the waste. For example, there is the tinware manufacturer who punches the spouts for tea-kettles from the odd-shaped pieces of metal that come from the blanking presses. This same plant had been cutting sheets of metal into strips to bind its export cases, while at the same time strips made in the plant were being baled and sold as scrap, as described in the last article.

In a wagon factory a sawyer stood all day at his cut-off saw, making short pieces of wood out of long ones for spokes. In another part of the plant another man was cutting other long pieces into very short ones for another purpose.

The first operator could cut very few of his pieces exactly without waste. Every night the janitors carted out hundreds of short ends to the boiler room. And all the time these short ends could, depending on their length, have been used for any of a half-dozen parts that other sawyers were cutting from long lengths. This is not an uncommon occurrence elsewhere.

To-day each sawyer is given a list of the length of pieces used throughout the shop and he plans his cutting of each

DOMINION BRIDGE CO., LIMITED

MONTREAL, P.Q.

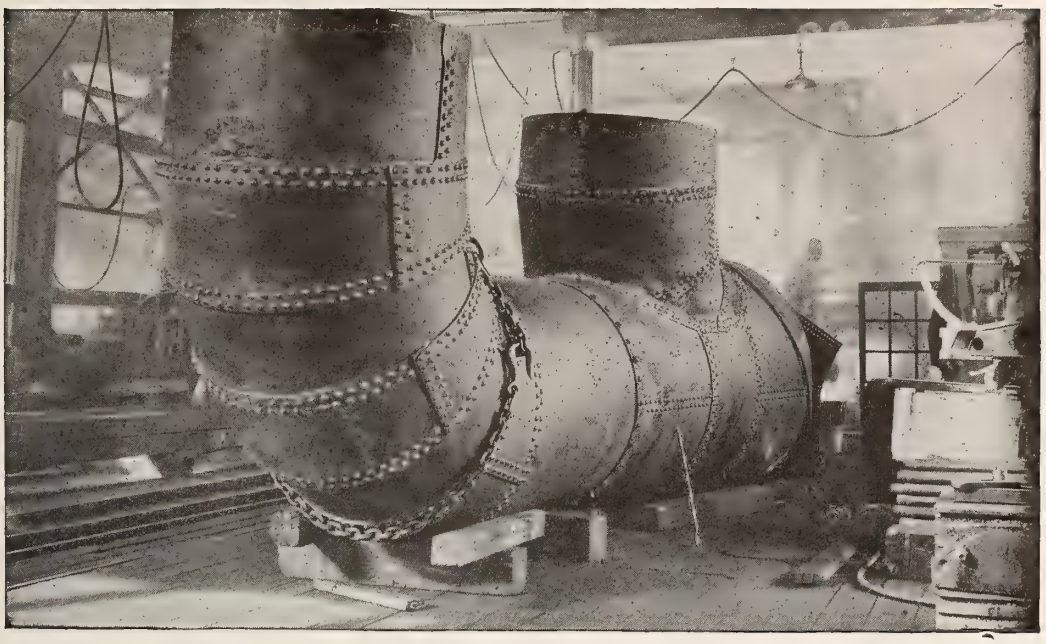
Engineers, Manufacturers and Erectors of

Paper Making Machinery

Steel Structures

Railway and Highway Bridges

Electric and Hand Power Travelling Cranes



Penstocks

Tank and Plate Work

Marine Engines and Boilers

Coal and Ore Handling Machinery

Lift Locks and Gates

Head Office and Works: LACHINE, P.Q., CANADA P.O. Address: MONTREAL, P.Q.
Cable Address: DOMINION Branch Office and Works: TORONTO, OTTAWA, WINNIPEG
Sales Offices: MONTREAL, TORONTO, OTTAWA, WINNIPEG, EDMONTON, REGINA, VANCOUVER
LARGE STOCK OF STRUCTURAL MATERIAL AT ALL PLANTS

QUALITY AND SERVICE

Acetic Acid Refined
Acetic Acid Crude
Acetic Anhydride
Acetate of Soda
Acetate of Lime

Acetone Pure
Acetone Alcohol
Acetone Oils
Charcoal
Columnian Spirits
Wood Alcohol

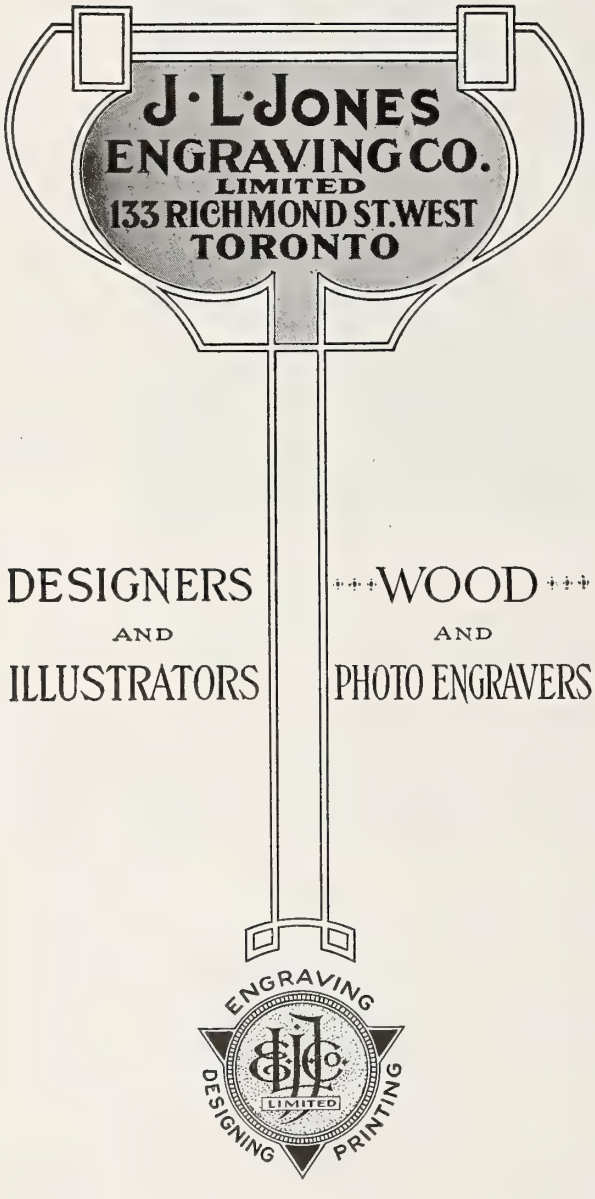
Creosote Oils
Formaldehyde
Methyl Acetate
Methyl Alcohol
Methyl Alcohol Pure

Made in Canada

Standard Chemical, Iron and Lumber Co.

OF CANADA, LIMITED

MONTREAL TORONTO WINNIPEG



length with this in view. Practically nothing goes to the furnace now but sawdust and pieces an inch or two long.

It must be remembered, however, that sometimes it costs more in labor to use the odd left-over pieces of material than they are worth. This is easy to determine if the concern has a proper cost system.

Frequently it is desirable to take on a new line of product solely to use up the odd scraps of material that cannot be used in the principal product.

A glove maker, for instance, found that no matter how carefully his cutters planned to use up the skins, it was impossible to avoid leaving over great numbers of small pieces that could not be used in gloves. So he now makes them up into leather penknife cases, watch covers and small change purses and gets a higher price for them per square inch of skin than he gets for his gloves. Formerly these scraps of skin had absolutely no value.

A counterpane manufacturer cut from each corner of his counterpanes a nearly square piece of cloth, containing about 70 square inches, so that the counterpanes would fit around the bedposts. That is 280 square inches for each unit of product and amounts to many hundreds of dollars a year in raw material. The corners were formerly sold to paper mills.

A few cents labor on each now turns them into babies' bibs and they bring nearly 100 times as much a pound of material as he formerly received from the paper mill.

Putting Wood Waste to Use.

Farm implements and butchers' blocks may seem to be products too diversified to go well together; yet a farm implement manufacturer gets a handsome price for his wood waste in the form of blocks. The wood is all in very small pieces of high quality hardwood. These pieces are covered thoroughly with glue and compressed in heavy presses to make the butcher blocks.

Some furniture manufacturers use short ends and scraps of wood to make children's tops, alphabet blocks and other wooden toys. One showcase concern has a waste of a great deal of broken glass and small pieces left over after cutting. This is used to make leaded glass fronts for bookcases, as well as windows. There is as much profit in these leaded panes as in the regular product.

It is perhaps trite to refer to the often mentioned outlets the meat packers have found for the hair, hoofs and other wastes incident to manufacturing meat. But the fact remains that nothing which comes into the packing plants as raw material leaves as waste or scrap. It is all finished product which sells at a good price, whether it be lamb chops, fertilizer, porterhouse steak, hair mattresses, sweetbreads or violin strings. It might pay any manufacturer to visit a packing plant in the hope that he would be inspired to see new ways to utilize his waste materials.

The opportunity for taking on new lines of product to match the material wasted in making the existing one is present in nearly every industry. The trouble is that most manufacturers cannot be expected to know all about every other product different from his own that finds a sufficient demand in the market.

Therefore it frequently pays to call in outside help. A few hundred dollars spent for the services of a consulting chemist will frequently result in finding a use or a profitable outside market for a seemingly useless scrap or by-product.

A gas company, for example, had a waste liquid analyzed and found it to be the basis for the new high explosive, TNT, and worth several dollars a pound. It had been going down the sewer.

Fellow Manufacturers



We Make in Canada
Lead Pipe
Sheet Lead
Wire Solder
Bar Solder
Ribbon Solder

BABBITT METALS
for all requirements

INGOT METALS
Copper Tin Lead
Aluminum and Brass

EVERYTHING
IN METALS

Wherever you are
we can serve you

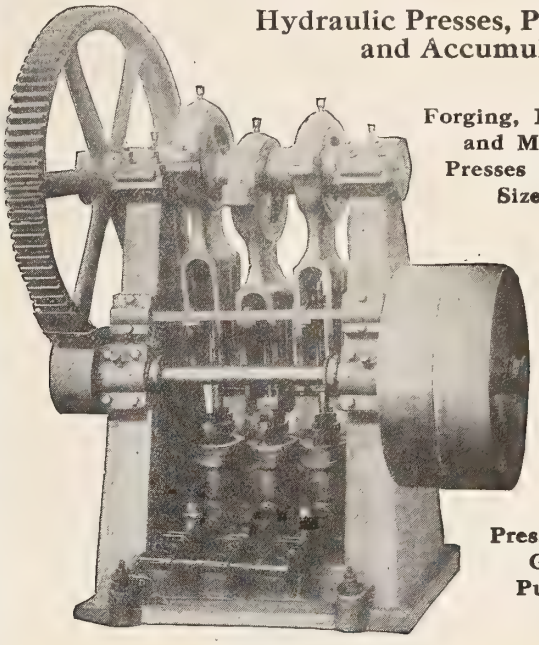
The Canada Metal Co. Limited
TORONTO MONTREAL WINNIPEG VANCOUVER

PRESSES

Made in Canada

Hydraulic Presses, Pumps
and Accumulators

Forging, Nosing
and Marking
Presses for all
Size Shells



Presses for
General
Purposes

WILLIAM R. PERRIN, Limited
Toronto, Canada

TAR PRODUCTS

Dominion Tar and Chemical Company

TAR DISTILLERIES

Sault Ste. Marie, Ont. **Sydney, N.S.**

Address all communications to Sales Office,
400 McKinnon Bldg., Toronto, Ont.

Black Varnish
Creosote Oils
Wood Preservative Oils
Hard Coal-Tar Pitch

Naphthalene
Disinfectants
Crude Carbolic Acids

Phenols and Cresols
Paint Naphthas
Crude Naphthas
Shingle Stain Oils

FILES THAT STAY SHARP

Workmen know it is better to throw away a file as soon as it becomes worn. They can't get good results from dull files.

Do not be afraid to tell your workman to discard a Famous Five File as soon as it becomes dull. You will have obtained the maximum service before its usefulness is gone.

Famous Five Files are hardened by a special process which increases their durability.

Specify them when ordering

They are:



A tanner had been allowing a waste product to go into the river until a chemist told him that it was a coagulant which is used in filtration plants.

Industrial engineers, too, are often able to point out uses for scrap because of their familiarity with other industries and their knowledge of the raw materials used in most products.

Selling the Scrap

This brings us to the third method of salvaging—that is to sell the scrap for the most that it will bring. As just shown, it is sometimes possible to find that the, to you worthless scrap is the valued raw material of another industry. That means that by selling it direct to those who need it, it is often possible to get a considerably higher price than the junkman will give.

For instance, spring steel of high quality is an expensive material to throw away. Automobile springs are pointed by cutting two triangular pieces from each end. This waste amounted to many thousand pounds a year, which as scrap brought comparatively nothing.

It happened that this spring maker employed an industrial engineer who had had experience in a farm-implement plant. He suggested that these triangular pieces of spring steel could be well used for the teeth of spring-tooth harrows. Negotiations were opened, resulting in a permanent agreement that the harrow concern would take the entire output of spring steel scrap. It not only served the purpose but the shape of the pieces saved considerable cutting and other labor in the harrow plant. This is one way to realize a higher price on scrap that must be sold.

A good deal of attention is being given in up-to-date plants to the reclamation of materials and supplies that were formerly regarded as useless scrap and which were sold at an insignificant figure. There are many instances of savings, secured by an intelligent study of this problem, which vary from a few hundred dollars in smaller plants up to the hundreds of thousands salvaged annually by some of the larger industries.

It is safe to say that no plant is entirely free from a constant accumulation of miscellaneous "junk," such as discarded tool steel, wornout shafting, broken castings, bolts and nuts with bruised threads, and a thousand and one things which are cast aside because they do not serve any useful purpose in their existing condition. An examination of the typical shop usually shows piles of such discredited articles lying under machines and in out-of-the-way corners, where they sometimes remain unmolested for years. Also many storerooms are simply junk piles of obsoleted or worn-out tools and jigs.

How Junk is Handled

One plant has solved this problem by establishing an enclosure near the storeroom, where all discarded articles are delivered before any disposition is made of them. No foreman is allowed to retain in his department any tools, equipment, materials, or supplies which are not serving, or capable, in their existing form, of serving some necessary useful purpose.

All such articles are sent to the scrap room, where they are examined by the master mechanic. He determines their value and decides what can be salvaged and what must be disposed of as scrap.

The plant operates a repair department, where a number of machine tools are installed. Damaged bolts are cut off, or turned down or rethreaded; discarded pieces of shafting are selected for work requiring smaller diameters; broken drills are cut off and repointed; and an endless number of other articles are converted into useful forms.

STEEL BARS

ROUNDS, SQUARES, FLATS, ANGLES AND SPECIAL SECTIONS FOR AGRICULTURAL IMPLEMENTS

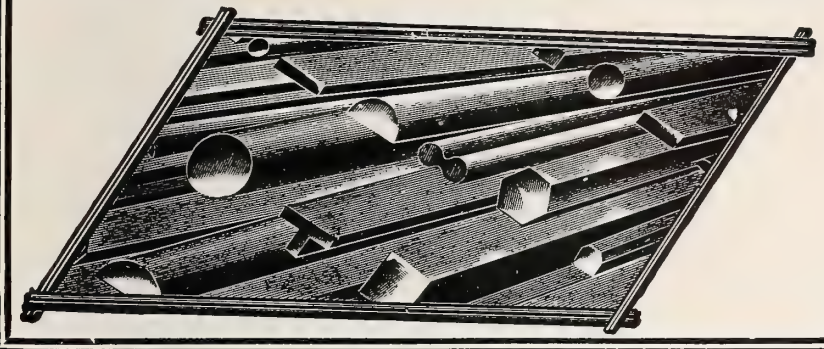
Prompt Shipment from Stock

BURLINGTON STEEL CO., Ltd.

HAMILTON - CANADA

UNION DRAWN STEEL CO., Limited

HAMILTON, ONTARIO



MANUFACTURERS OF

Shafting

Rounds, Flats, Squares and Hexagons

LARGEST STOCK IN CANADA

Get prices before ordering elsewhere.

CANADIAN TUBE & IRON CO., LIMITED

MONTREAL, CANADA

WROUGHT PIPE BLACK AND GALVANIZED 1/8 TO 4 INCH

Thoroughly inspected and tested to 600 lbs. pressure and branded

Ask Your Jobber for

Brand

Also BOLTS, NUTS, RIVETS—All Kinds

PRESSED SHIP SPIKES, BLACK AND GALVANIZED—All Sizes

SELLING AGENTS FOR

CANADIAN ROLLING MILLS CO., LIMITED

Bar Iron and Steel

COLONIAL WIRE MFG. CO., LIMITED

Wires, Wire Nails, Wood Screws, etc.

WORKS: LACHINE CANAL MONTREAL, CANADA



Concrete dust ruins machinery, motors, etc. Protect your machinery by painting your concrete floors with

RAMSAY'S
Gloss Finish
CONCRETE PAINT

WRITE US

A. RAMSAY & SON COMPANY
3 *Makers of Paints and Varnishes since 1842*
TORONTO MONTREAL VANCOUVER

MANUFACTURERS OF

STEEL STRUCTURES

OF ALL CLASSES
PARTICULARLY

BUILDINGS
BRIDGES
TANKS

MacKinnon Steel Co., Limited
SHERBROOKE, QUE.

Montreal, Office; 404 New Birks Building

Here again judgment must be used, for it is easily possible to spend more on reclaiming the scrap than the tool would cost new. A simple formula will show wheher it pays to rework old tools and supplies of this nature. It is: If the labor cost of reclaiming, plus the scrap value of the material, is greater than the cost of new tools or supplies, it does not pay.

Materials and supplies which cannot be reclaimed if sorted out can usually be sold at prices much above those which could be obtained for miscellaneous unsorted scrap.

This plan of classifying scrap yields a high return often. Take rags, for instance, which are readily salable to paper mills. Some kinds of selected rags are worth four or five times what the same rags are worth mixed with others. On one day this year, for instance, the quotation on "new shirt cuttings" was $12.25 per hundred pounds; "blue cottons," $8.25; while mixed rags sold for about $3.

Waste paper is another instance. When certain grades of waste paper sell at from $1.50 to $6 per hundred pounds, the same papers mixed sell at 65 to 75 cents.

In the metals the same holds true. Tool steels worth several dollars a pound will bring but a few cents if mixed with other grades of steel and iron.

As a low grade of common labor suffices to sort out scrap, it is usually well worth the expense involved. Of course it is well to consult trade papers or those conversant with the trade to determine just what classification and selection of scrap should be carried out.

In nearly any plant it is worth while to study the scrap pile closely and decide which of the three methods of getting a higher price for scrap shall be used. Often, in fact usually, all three may be used successfully to yield dollars.

Promoting Good Feeling

J. A. Marven Co., Limited, of Moncton, N.B., Believe in Giving Employees Good Time

An outing in which over two hundred of the employees of the J. A. Marven Co., Limited, and the Havelock Mineral Springs Co., Limited, of Moncton, N.B., participated, was held at the Marven Farm, near Anagance, on September 15. The party went to the farm by rail and spent a most enjoyable day. Dinner and supper were provided by the company, and a programme of sports was indulged in.

In replying to a vote of thanks, Mr. Marven referred to the good feeling that prevailed between the company and its employees. "It has been especially gratifying to me," he said, "during these busy months, to note the earnest endeavor of each and all of you, to give his, or her, very best, in the interest of the J. A. Marven Co., Ltd. I am proud of the spirit of hearty co-operation, evidence of which I see every day in our plant, and which I know, not only exists in the manufacturing departments, but throughout the various branches of our business, the engineers, electricians, shippers, delivery men and the office staff, as well as our very efficient superintendent and sales force. I wish to take this opportunity to thank you one and all. I hope this is only the beginning of many such happy gatherings, and that next year we may be able to arrange another such outing."

RIDOUT & MAYBEE
Solicitors of Patents
Counsel, Solicitors and Experts in
PATENT SUITS
Agencies in the leading countries of the World.
EDWARD MAYBEE, Mech. Eng. J. F. EDGAR, Counsel
KENT BLDG., YONGE STREET, TORONTO



"DOMINION" WIRE ROPE

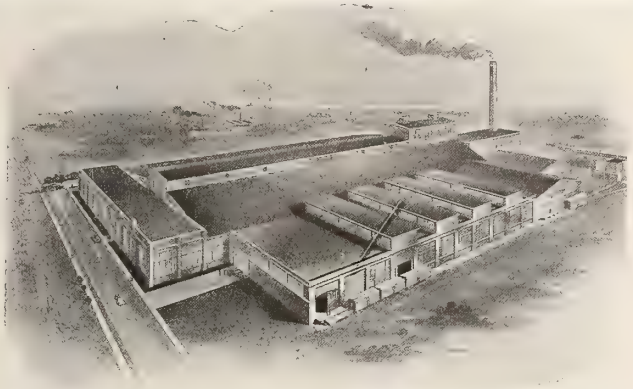
FOR

Hoisting, Haulage, Semaphores
Transmission of Power

TOWING, BRIDGES, DERRICKS, Etc.

The Dominion Wire Rope Company, Limited

Toronto Winnipeg Montreal



SHAFTING

Cold Drawn, Cold Rolled
Turned and Polished Steel
FINISHED KEYS

The Canadian Drawn Steel Co., Ltd.

HAMILTON, CANADA

THE CANADIAN BRIDGE CO., Limited

WALKERVILLE, ONTARIO

Montreal Office: New Birks Building

MANUFACTURERS

RAILWAY AND HIGHWAY BRIDGES

Locomotive Turn Tables. Roofs, Steel Buildings and
Structural Iron Work of all Descriptions

ARMSTRONG WHITWORTH OF CANADA
LIMITED

Montreal,
Toronto,
Hamilton,
Winnipeg



Works: LONGUEUIL, QUE.

Manufacturers
in Canada
of

Locomotive and
Car Wheel Tires

HIGH SPEED
and
CARBON TOOL STEEL

Among the Industries

Under this heading are published items of news of current interest concerning the activities of Canadian manufacturers. Information about changes of interest, enlargement of plants, and plans for future developments are welcome, and are published free of charge, provided they should not be properly classified as advertisements

ALBERTA.

Edmonton.—The Massey-Harris Co. and the J. I. Case Threshing Machine Co. have taken out permits for the erection of new warehouses.

BRITISH COLUMBIA.

Murrayville.—The Murrayville Toy Co. propose to make extensions to their plant.

New Westminster.—Ratepayers of New Westminster have approved of a free site for the Western Canada Cordage Co., a concern composed of returned soldiers, and the company will immediately proceed with building operations. This is the company to which the Provincial Government, acting upon the recommendation of the advisory board of the new Department of Industry, recently authorized a loan of $200,000 from the $2,000,000 fund which was created by legislation passed at the last session of the Legislature. Tenders for the new buildings will be immediately called for. The company is capitalized for $300,000, of which $100,000 is subscribed by returned men. Each shareholder holds the same amount of shares and each has but one vote. The shares are held on the profitsharing plan.

Orchard City.—The Orchard City Evaporator have purchased the aerated water manufacturing and bottling plant of Western Canners, Limited.

Princeton.—It is stated that work will start shortly on the erection of a mill and concentrating plant for the Canadian Copper Corporation at Allenby, at a cost of about $200,000.

Vancouver.—The Canada Western Woollen Mills, Limited, have been incorporated with a capital stock of $200,000. It is proposed to produce worsted yarns, blankets, rugs and flannels at the start and later to manufacture cloths, etc. The company has been primarily incorporated with the idea of employing returned soldiers and having them become stockholders. The president is Gordon Jonah, of Jonah, Prat Co., Limited, gents furnishings, Vancouver, and the general manager, J. L. Clark, a woollen manufacturer of thirty years' experience.

The Maple Leaf Iron Works are building a new machine shop at 425 Alexander Street.

The Pacific Box Company have started the manufacture of pails.

It is understood that a plant to manufacture and assemble marine machinery will be located on Burrard Inlet on water frontage adjoining P. Burns' packing plant. Estimated cost, $1,000,000.

The Gregory Tire and Rubber Co., Ltd., of Akron, Ohio, are having plans prepared for the first unit of the large factory which they propose to erect. The building will probably be two stories of reinforced concrete construction, 200 feet by 80 feet.

White Rock.—The White Rock Packing Company will shortly commence operations, devoting attention principally to the canning of crabs by a special process.

MANITOBA.

Winnipeg.—The Red River Paper Mills, Ltd., have been granted a charter by the Provincial Government, and will probably construct a new mill soon.

The Burgess Battery, Ltd., have opened a factory at 701 Wellington Avenue for the manufacture of dry cell batteries. The head office of this company is at Madison, Wis. L. R. Baker, who was formerly associated with the Canadian Dry Cell Co., has been engaged as manager of the new plant.

NEW BRUNSWICK.

St. John.—The Corona Candy Co. is planning to enlarge its plant.

NOVA SCOTIA.

Halifax.—The completion of buildings for the Halifax Shipyards is being pushed ahead at a great rate and in the meantime excellent progress is being made with the keels already laid for steel freighters for the Government programme. The company has four building berths and is also equipped to carry out all kinds of repair work, for which it gets a great deal of business.

Sydney Mines.—It is announced that the Nova Scotia Steel & Coal Co. will shortly proceed with the erection of a by-product plant, costing over $2,000,000. The erection of the new ovens will mean a further enlargement of the present plant and the necessity for the erection of an additional blast furnace.

ONTARIO.

Belleville.—Ruttan & Ellis' planing mill and factory were badly damaged by fire on September 24, the loss sustained being three or four thousand dollars.

Brantford.—A building for the purpose of manufacturing small motors and electric fans will be put up in Brantford by the Robbins & Meyers Co., of Springfield, Ohio.

The Brantford Computing Scale Co. will make additions to their plant.

Contract has been let by the Slingsby Co. for additional buildings at an estimated cost of $200,000.

The Robbins & Meyers Co., Springfield, Mass., will locate its Canadian plant at Brantford, where it recently purchased a site of ten acres and will erect a plant to employ 350 hands. The company manufactures small electric motors and fans, etc.

The Brantford Scale Co. has awarded a contract for erection of an addition to their present plant. Plans are being prepared to double the capacity of the plant for further additions.

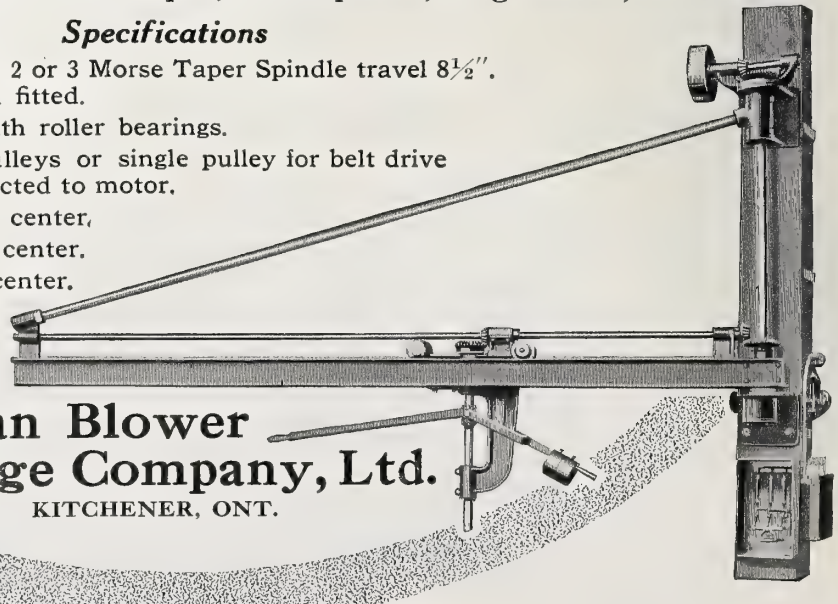
Built for Service

The Canadian Radial Drill is designed particularly for work in structural shops. For reaming and countersinking large surfaces such as structural shapes, boiler plates, long beams, etc.

Specifications

Spindle 2-3-16″ diameter No. 2 or 3 Morse Taper Spindle travel 8½″.
All gears accurately cut and fitted.
Carriage wheels equipped with roller bearings.
14″ x 14″ tight and loose pulleys or single pulley for belt drive to motor, or direct connected to motor.
15 ft. beam will drill to 13′ 6″ center.
12 ft. beam will drill to 10′ 6″ center.
7 ft. beam will drill to 5′ 6″ center.

Write Dept. H for literature



Canadian Blower & Forge Company, Ltd.
KITCHENER, ONT.

Penmans

Underwear, Hosiery and Sweaters
Laundry, Pulp and Papermakers' Felts, Blankets
Lumbermen's Socks, etc.

Factories at

PARIS, THOROLD, PORT DOVER, ALMONTE AND BRANTFORD, ONTARIO
ST. HYACINTHE AND COATICOOK, QUEBEC

Penmans LIMITED

PARIS : : : CANADA

Doon Twines
Limited

Kitchener - Canada

Manufacturers of

TWINES AND CORDAGE
CLOTHES LINES
PLOW LINES, etc.

We have a new line of Hemp Twine which we especially recommend for either light or heavy parcelling.

Our goods are made in Canada from the raw material. Assist the development of our country by buying Made-in-Canada goods.

MILLS AT DOON AND KITCHENER

The
MONTREAL COTTONS
LIMITED

MANUFACTURERS OF

WHITE VICTORIA LAWNS

WHITE NAINSOOKS

and

DYED COTTONS

OF EVERY DESCRIPTION

WE GIVE

"Quality and Service"

in

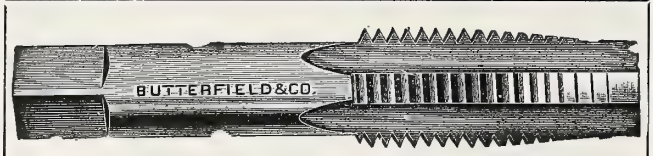
Tractor and Truck

Steel Castings

JOLIETTE STEEL CO. LIMITED

903 Read Building

MONTREAL



At the top!

THAT'S where Butterfield Taps have been for many years—in the very forefront of leadership in quality and highest in the estimation of expert machinists.

Butterfield Taps

always do their work well. They assure both speed and accuracy, being made from the highest grade of tool steel, and always absolutely standard in gauge. When you buy taps, look for the name "Butterfield" on the shank. If it's there, you can buy the tool, and put it to work in the complete assurance that it will do its work unfailingly.

MADE IN CANADA BY

Butterfield & Co. Inc.

Rock Island, Quebec

It is stated that the Cockshutt Plow Co. will make extensive additions to their plant at an estimated cost of $100,000. Construction has commenced on an additional storage warehouse and a new experimental building.

The Dominion Steel Products Co. has announced that, on account of objections by Mayor Macbride against the closing of Leonard Street for a large extension of the company's plant, the firm has decided not to go on with the contemplated work.

Chatham.—The springs building at the plant of the Dowsley Spring & Axle Works was gutted by fire on September 11, with a loss of over $50,000. The building was a one-storey brick structure, 400 feet long. It will be restored at once and a contract has been let for the purpose.

Dundas.—Alexander Motherwell of Canada, Ltd., are making extensive improvements and enlargements to their plant. Two large grain storage bins are being constructed to the rear of the plant and considerable new machinery is being installed. Enlarged capacity of plant, ten cars per day.

Dunnville.—Canadian Engines, Ltd., manufacturers of stationary and portable gas and gasoline engines, grain grinders and saw frames, who were practically closed down during the war, have resumed operations and are taking on a full complement of men.

Fergus.—Beatty Bros., Limited, manufacturers of barn equipment, plan extensions to their factory to cost around $35,000.

Ford City.—The Imperial Oil Company's new distributing plant is almost completed. From this plant practically the whole of the western peninsula of Ontario will be supplied with oil.

Fort Frances.—It is stated that negotiations are under way for the establishment of a plant by the International Insulation Company.

Galt.—A branch factory for the manufacture of ladies' and girls' coats, under the name of the York Manufacturing Co., has been located here by Mr. A. Goldhamer, of Toronto. Machines have been installed in the loft of the Buchanan Block on Mill Square.

Goderich.—The Convertible Tractor Corporation, of St. Paul, Minn., contemplate the erection here of a plant for the manufacture of their tractor attachments.

Guelph.—Contracts have been let recently for additions costing $40,020 and $50,000, respectively, to the factories of the International Malleable Iron Co., Limited, and the Guelph Worsted & Spinning Co.

Hamilton.—In connection with the erection of a plant for Poitts & Spencer, Limited, contracts have been let for the construction of one four-storey reinforced concrete factory, 56 x 146 ft.; three buildings, 63 x 362 ft., 123 x 144 ft. and 81 x 62 ft., respectively, and an office building 62 x 45 ft.

The T. Eaton Co. are ereting a factory building costing $100,000 on Hughson Street North. A $15,000 building is being put up by the Smart-Turner Machine Co.

Contracts have been let for a $27,500 addition to the factory of the Frost Steel & Wire Co., Limited; a $12,000 addition to the plant of the Burlington Steel Co., Limited; an $8,000 addition to the factory of Meakins & Sons, and a $23,000 addition to the factory of the Dominion Sheet Metal Co., Limited.

Kitchener.—Permit for the erection of a two-storey felt factory, 100 x 145 feet, has been granted to the Ames-Holden Company.

A B. Pollock Mfg. Co. will build an extension to their plant.

The Lang Tanning Co. will erect two warehouses at an estimated cost of $24,000.

Negotiations are under way between W. N. McEachern and Sons, Ltd., house builders, and a number of manufacturers in this city to have from twenty to thirty houses built this fall in each of the five wards of the city.

Mimico.—As a result of a series of conferences between the Goodyear Tire and Rubber Co. and the Mimico Housing Commission, twenty new brick houses will be built under the provincial scheme on Murrie Street, and tenders will be called for immediately. The launching of a more comprehensive programme along similar lines is being contemplated for 1920.

Midland.—The Midland Whitewear and Costume Co. contemplates additions to factory and installation of new machinery.

Niagara Falls.—Contracts have been let for a $60,000 factory for the Niagara Wire Weaving Company.

Orillia.—The head office of Carriage Factories, Limited, which has been located for some time in Toronto, has been moved here and is now to be found in the Tudhope Carriage Co.'s building.

Oshawa.—About a mile of new sidings will be built to furnish shipping facilities for General Motors of Canada, Ltd.

A plant may be established here by the Ibex Tire & Rubber Co. of Canada, Limited.

The Pedlar People, Limited, are adding five new buildings to their plant, these being of steel construction with brick walls and concrete floors.

Owen Sound.—Lee's Mattresses & Cotton Products Co. is the name of a new company which starts operation in October. The company will make a full line of mattresses, awnings and tents and later will turn out re-covers for auto tops. The plant will be located in the two upper flats of David Rutherford's carriage works and will start in a small way. Messrs. Charles and Percy Lee are the promoters.

Petrolea.—The Board of Trade, assisted by Mr. E. Hyatt, has succeeded in getting another industry. Mr. Frank A. Halstead, of Port Huron, has purchased the Stevenson boiler works, and will remodel it for the manufacture of soaps and greases. The concern will employ 25 to 40 hands.

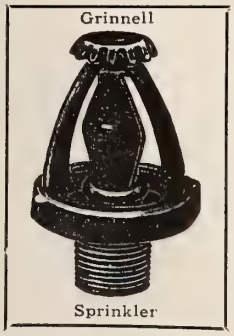
Renfrew.—The Renfrew Refrigerator Co. will construct immediately new additions which will double their present floor space.

St. Thomas.—The St. Thomas Cabinets, Ltd., will establish a factory to manufacture gramaphone cabinets.

Sarnia.—The Sarnia Woollen Mills Co. propose to erect a store and office building at a cost of $15,000.

The International Bushings Co., of which C. E. Calvert, Toronto, is president, will erect a plant in the near future.

The Loughead Machine Shop here has been purchased by the Seagrave, Ltd., manufacturers of motor trucks and firefighting apparatus. The new concern, which has several establishments



Save Fifty TO Ninety Per Cent.

of your insurance premiums and eliminate all fire worries by having us protect your factory and its output with an

Automatic Sprinkler System

Your savings in insurance premiums buy the complete system on our participating plan.

CONSULT US

Heating and Power Plants

Designed, installed or remodelled to reduce your maintenance cost to a minimum.

Expert advice given in all branches of Plumbing, Heating and Sprinkler Work.

PURDY, MANSELL LIMITED
Engineers and Contractors
63 ALBERT ST. TORONTO, CAN.



SPRINKLER TANKS and TOWERS

also wood and steel tanks for Municipal, Railway and Suburban water supply.

All our tanks and towers are built to pass inspection of any Board of Fire Underwriters.

Send for special tank and tower catalogue.

GALVANIZING HOT AND ELECTRIC

We do all kinds of hot and electro galvanizing for the trade. Our plant is one of the largest in Canada and our charges reasonable.

Write us for quotations on your galvanizing work.

Ontario Wind Engine & Pump Co., Limited
TORONTO MONTREAL WINNIPEG CALGARY

T H-E

See to the lights—now

Soon, the shorter daylight period will be with us. Timely inspection of your electric lights is in order. They should be efficient light givers—not current wasters. Your workpeople will appreciate the di erence, and it is bound to show in greater production. Hydro Shop sells "quality" lamps in all sizes and varieties. We gladly offer our assistance in selecting the lamps your plant needs to give the best results. We are at the other end of your telephone wire.

Toronto Hydro-Electric System

226-8 Yonge St. Branch—Gerrard and Carlaw

Canada-South Africa
Direct Service

Regular monthly sailings from Montreal in Summer and St. John, N.B., in Winter, calling at Cape Town, Algoa Bay (Port Elizabeth), East London, Port Natal (Durban) and Delagoa Bay in the order named.

Sailings 20th of each month.

All steamers fitted with refrigerators for the carriage of perishable freight.

For rates of freight and other information apply to

ELDER DEMPSTER & CO., Limited
133 BOARD OF TRADE BUILDING - - MONTREAL
Toronto Agent: S. J. SHARP, 79 Yonge St., Royal Bank Bldg.

THE
New Zealand Shipping Company Limited
CANADA
TO
Australia and New Zealand

Regular monthly sailings from Montreal in summer and St. John in winter, calling at Auckland, Wellington, Lyttelton and Dunedin (New Zealand) and Melbourne and Sydney (Australia). Sailings 20th of each month.

Through bills of lading issued to all points in Australia, New Zealand, Tasmania and other islands of Oceania.

Marine Insurance effected at rates equal to those given from New York.

For rates and other information apply to

The New Zealand Shipping Co.
LIMITED
213 Board of Trade Building, Montreal

in the United States and Canada, will be capitalized at $200,000, one-quarter of which will be open to local investors.

Toronto.—The Anchor Cap Company, Brooklyn, have commenced construction of a factory on Wallace Avenue, at an estimated cost of $45,000.

The Quaker Candy Co. have obtained a permit for an addition to their factory at 420 Queen Street.

The Toronto Wool Scouring Co., Limited, have recently removed their plant from Lake Street to the former Reinhardt Brewery Building on Dundas Street at the Don. The new quarters afford greatly increased production, the capacity being 15,000 lbs. of wool per day.

The Canadian John Wood Manufacturing Co., Limited, which purchased a plant on Hillingdon Avenue, adjoining the Grand Trunk Railway, expects to start production this month. The company will manufacture all types of welded steel tanks and containers by both the electric and oxy-acetylene method.

A factory and warehouse costing a quarter of a million dollars are being erected by the Northern Aluminum Co., Limited, 158 Sterling Road.

An extension to their present plant in Weston is being made by the Canada Cycle and Motor Co.

The Sunbeam Chemical Co. of Canada, Limited, a branch of the Sunbeam Chemical Co., Chicago, are opening a plant at the corner of Lombard and Jarvis Streets for the manufacture of dyes, dye products and disinfectants and will employ forty hands.

Trenton.—Repairs are to go ahead to the Cold Storage Building to put it into shape for a paint factory. It is proposed to manufacture from the ore found in Ontario, and will include the full process of crushing, grinding and mixing. E. James and W. W. Young, negotiating with an established paint concern at Montreal, are the interested parties.

Walkerville.—Contracts have been let for a $65,000 branch plant for the American Auto Trimming Co., Detroit, and for two additions costing $500,000 for the Peabody Sales Corporation, Limited..

Windsor.—The Peninsular Machine Co. and the Helbring-Wright Chemical Co. of Detroit, plan to establish branch plants here.

The Fisher Body Co., Detroit, will build a five-storey factory for the manufacture of closed automobile bodies, which will employ 200 men when completed. The company has a plant at Walkerville, Ont., where it manufactures open automobile bodies. The new plant will cost $350,000. A by-law has been passed granting a ten-year fixed assessment of $10,000.

The Champion Spark Plug Co. of Canada is erecting a $60,000 extension to its plant.

Brantford.—The latest local industry to announce an extension is the Brantford Oven & Rack Co., which will double its plant, owing to increased demand for its output.

PRINCE EDWARD ISLAND.

Charlottetown.—Bruce, Stewart & Co., Limited, have let the contract for a new machine shop.

QUEBEC.

Calumet.—The North American Magnesite Company, Limited, have let contracts for a plant to cost $100,000.

Grand Mere.—The Laurentide Co. have decided to install three more grinder units, each consisting of one 2,800 horse-power motor directly connected to two magazine grinders. The ground wood building will be extended for the purpose. The new grinders will increase the capacity of the groundwood department to a total of about 400 tons, air-dry weight, of groundwood pulp per day.

Montreal.—An addition to the plant of the National Breweries, Limited, will be erected at a cost of $450,000.

Bovril, Limited, 27 St. Peter Street, plans the erection of a factory.

Tooke Bros., Limited, are erecting an addition to their factory at 302 De Courcelles Street..

Contract has been let for a $50,000 factory for the Anglo-Canadian Wire Works, Limited.

B. J. Coglin Co., Limited, 2050 Ontario Street, plan the erection of an addition to their plant. .

Additions to mills and bins at a cost of $160,000 are being made by Dominion Flour Mills, 302 St. Ambroise Street.

The Montreal Locomotive Works are erecting several additional buildings at their plant at Longue Pointe.

Quebec.—Contracts have been let for a $35,000 extension to the factory of John Ritchie Co., Limited, 496 St.. Valier Street, and $20,000 factory for Imperial Tobacco Co. of Canada.

St. Johns.—Plans have been prepared for an addition to the plant of the Belding Paul Corticelli, Limited.

Sherbrooke.—A factory costing $240,000 will be erected by Julius Kayser & Co., Frontenac Street.

The Connecticut Cotton Co. have under consideration the erection of an addition to their plant..

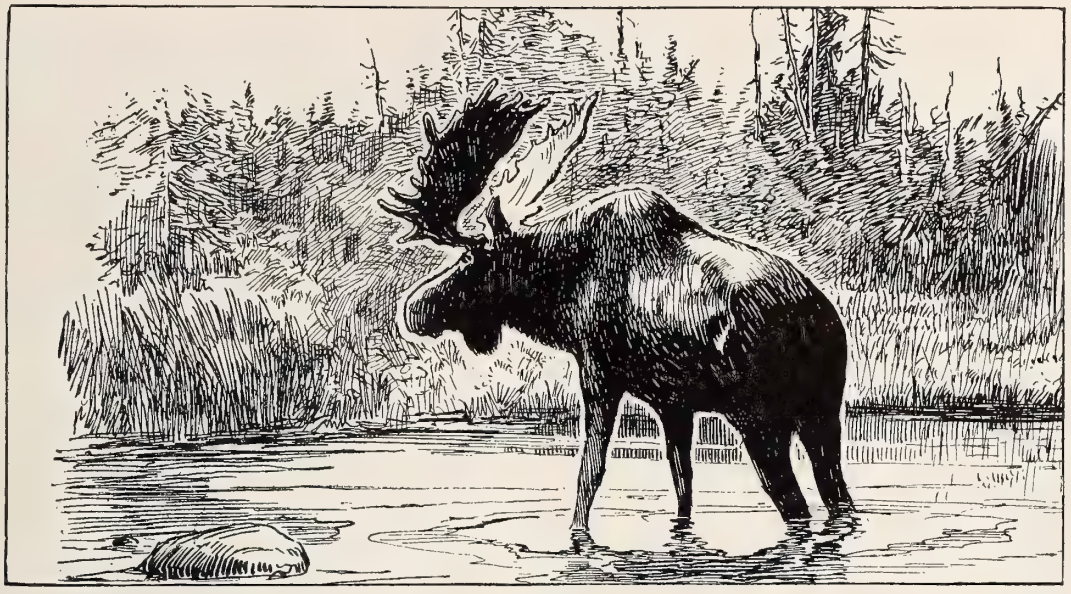
Three Rivers.—A large plant will be erected here by the Lava Cement, Clay and Silicate Products Co.

The International Paper Co., Ltd., is erecting a plant, consisting of eighteen buildings. Total estimated cost, $6,000,000.

SASKATCHEWAN.

Moose Jaw.—The Robin Hood Mills have let the contract for an office building to be erected on High St. and Fifth Ave. West. The building will be 40 by 80 feet, three storeys with basement.

CANADIAN COLLAPSIBLE TUBE CO., Limited
MANUFACTURERS OF
"Premier" Pure Tin, Plain and Decorated Collapsible Tubes
121 RICHMOND ST. WEST - - - TORONTO



The Call of The Open

WHEN the days begin to have that unmistakable fall "tang"---when you shiver more than a trifle if you leave your coat home nights---when the leaves are turning brown quicker than you can watch them---right then you feel that impulse to climb into that old khaki suit, to pull on those old knee boots, and to fondle that fine little old rifle---

AND to get up north where the big fellows are---moose, deer, caribou and bear, at your choice according to locality. Why not? The backwoods of Ontario are calling you to a real fall hunter's holiday.

AND it's so simple to get there. The Canadian Pacific takes you to all the best hunting country in Ontario. Ask any Canadian Pacific agent, or

W. B. HOWARD, DISTRICT PASSENGER AGENT
CANADIAN PACIFIC RAILWAY
1 KING STREET EAST, TORONTO

The Canadian Wood Turpentine—made at our mills at LaTuque, P. Q., is an excellent diluent and solvent and contains no free rosin.

Further information will gladly be sent upon request.

BROWN CORPORATION

Sales Office: *Portland, Maine, U. S. A.*

STEEL FACTORY EQUIPMENT



Steel Waste Paper Basket

Steel Shop Boxes, Foundry Boxes' Shelf Boxes, Shop Barrels, Stools' Oily Waste Cans, Garbage Cans

Gasoline Tanks and Pumps, Pressure Tanks, Storage Tanks, Smoke Stacks

Anything in Black or Galvanized Sheet Metal up to ⅛ thickness. Send blue print or rough drawing and get our prices.

Sheet Steel Sundries for the manufacturers is one of our specialties.

Write us

The Steel Trough and Machine Co., Limited
Tweed, Ont., Canada



CANADIAN CHICAGO BRIDGE AND IRON COMPANY
Limited
Bridgeburg, Ontario

ELEVATED STEEL TANKS
For Municipal, Railroad and Factory Service

Storage Tanks, Self-Supporting Steel Stacks and All Classes of Heavy Plate Metal Work

Write our nearest sales office to-day for prices, plans and specifications. Our catalogue No. 25 gladly mailed to you, upon request.

OFFICES:
Bridgeburg, Ont., Can., 121 Janet St.
Chicago, Ill., 2116 Old Colony Bldg.
New York, 3132 Hudson Terminal Bldg.

SHOPS:
Bridgeburg, Ontario
Greenville, Pa (Pittsburg District)
Chicago, Illinois

ESTABLISHED 1875

The Boiler Inspection and Insurance Co. of Canada

Continental Life Building, Toronto

Issues Policies of Insurance after a Careful Inspection of the Boilers Covering Loss or Damage to Property and Loss Resulting from Loss of Life and Personal Injuries. Policies Guaranteed by The Hartford Steam Boiler Inspection and Insurance Company.

Assets for Security of Policyholders, $4,552,020.43.

H. N. ROBERTS . . . . . President
OLAF E. GRANBERG . . . . . Vice-President
JAMES P. BYRNE . . . . . Secretary
M. B. ROBINSON . . . . . Asst. Secretary

Recent Trade Enquiries

A List of Enquiries Received from Various Sources including the Canadian Trade Mission, London; the Canadian Trade Commission, Ottawa; the Department of Trade and Commerce, Ottawa; and the Commercial Intelligence Department, C.M.A., Toronto.

137. Reconstruction.—A firm with reliable business references has been established in Manchester for the purpose of representing Canadian interests in Europe. They have on their staff fully qualified engineers, travellers, and salesmen, and are regularly going back and forward to the continent for the purpose of securing contracts for reconstruction work.

138. Pianos, Organs, etc.—A Glasgow importer asks to be placed in touch with exporters of the above.

139. Bolts and Nuts.—A Glosgow firm asks to be placed in touch with exporters of the above.

140. Wire Nails.—A Glasgow firm asks to be placed in touch with exporters of the above.

141. Kraft Brown Papers.—A Glasgow firm asks to be placed in touch with exporters of the above.

142. England.—A London firm in a position to sell large quantities of chocolates of all kinds, and cocoa, wish to get into touch with Canadian manufacturers able to fill orders.

143. Metal and Engineering lines, Foodstuffs, Chemicals, etc.—A London firm of importers and exporters, with branches in China, India, and the United States, who are mainly interested in metal manufactures, machinery, railway equipment, and engineering supplies, but also maintain a department for handling foodstuffs, chemicals, and raw materials, would be glad to hear from Canadian manufacturers and shippers seeking export connections. A full list of articles and terms, conditions, etc., is on file at the Department of Trade and Commerce.

144. England.—A jam manufacturing company in the South of England is open to purchase raspberry and strawberry pulp in barrels, and invites offers from Canadian packers experienced in this trade.

145. England.—A manufacturers' agent is desirous of fixing up sole commission agencies for this country with Canadian manufacturers of confectionery, biscuits, and grocers' sundries.

146. Foodstuffs.—A firm in Scotland is open for several agencies for Canadian manufacturers of foodstuffs.

147. Tramways and Light Railways.—A correspondent in London is anxious to get in touch with a few Canadian firms for such materials who are not already represented on this side.

148. England.—A London firm possessing a selling organization among the wholesale trade throughout the United Kingdom, desire the representation of Canadian manufacturers of woollen piece goods, (suitings, serges, costume, cheviots, tweeds, etc.), hosiery, underwear, knitted goods, woollen and silk jerseys and sweaters; also gloves.

149. Hosiery.—A London firm already representing a Canadian manufacturer, desires the agency, upon a commission basis, of Canadian manufacturers of hosiery lines, i.e., women's stockings, men's half hose, and children's socks and three-quarter hose, in wool, cotton, lisle, and artificial silk. Canadian reference.

150. England.—A London company which claims a connection among shipbuilders, is desirous of securing the agency of Canadian manufacturers of goods suitable for this trade, including: bolts and nuts, chains, cables, ships' brass work, iron, steel, brass and copper tubes, copper and brass wire, wire ropes, sheet steel, railway material, locomotives, waggons, carriages, rails, cast iron pipes, semi-rotary pumps.

151. Electric welding wire.—A Midlands firm of manufacturers are open to purchase steel electric welding wire (size No. 2, No. 4 and 5-16 in.) and invite offers from Canadian manufacturers.

152. Cuba.—An agent in Havana who is closely connected with the principal importers and merchants and whose salesmen cover the entire island of Cuba is desirous of getting in touch with firms who might be interested in securing representation there. This gentleman states that there is a large demand in Cuba for the following Canadian goods: cheese, codfish, crystallized fruits, canned goods, paper, glassware, and chemical products. References are good.

153. Italy.—A correspondent is anxious for Canadian manufacturers to send catalogues of the following: electrical articles, machinery, electric railway supplies, high tension transport lines, etc.

154. Greece.—A firm in Salonica is interested in foodstuffs in general, as well as in chemical products and dyestuffs.

155. Agency.—A buyer in Amsterdam is desirous of getting into communication with Canadian fruit driers, especially driers of apples.

Canadian National Railways

SERVE ALL CANADA

Lines of the C.N.R. traverse every province in the Dominion. They serve most important points, reach direct every seaport with the exception of one in Northern British Columbia. Therefore

Why Not Ship Canadian National?

Next time you have a consignment going out, instruct your shipper to route it over your own line, the C.N.R.

Get the "National" Idea

Canadian National Railways

Principal Agencies:—Halifax, N.S.; Moncton, N.B.; St. John, N.B.; Charlottetown, P.E.I.; Quebec, Que.; Montreal, Que.; Ottawa, Ont.; Toronto, Ont.; Port Arthur, Ont.; Winnipeg, Man.; Regina, Sask.; Saskatoon, Sask.; Prince Albert, Sask.; Edmonton, Alta.; Calgary, Alta.; Kamloops, B.C.; New Westminster, B.C.; Vancouver, B.C.; Victoria, B.C.

156. Spain.—A firm with branches in Milan and Brussels expects to open an office in Barcelona, Spain, and are desirous of getting in touch with manufacturers contemplating export to Europe. They are interested in the following articles: shoes, automobiles, trucks, silk hosiery, machinery, and automobile tires.

157. Agency.—An agent, who is well and favorably acquainted with the wholesale trade and its requirements, is desirous of securing agencies from reliable manufacturers and dealers in food products and kindred lines. He is prepared to sell goods on a commission basis.

158. Italy.—A firm in Cirenaica wishes to get in touch with important Canadian dealers in sugar and flour.

159. Trinidad and Demerara.—An agent with twenty years' experience of the West Indian trade and who has for the past six years acted very successfully as selling agent for several well-known British and American houses, wishes to act for Canadian manufacturers of manufactured iron goods, in fact, all light and heavy hardware goods. There is a growing demand for Canadian goods in this market.

160. Food Products.—A young man of good education, just returned from three years' overseas service, is desirous of representing Canadian manufacturers of jams, marmalades, biscuits, canned fruits and condensed milk in the United States or England. He has considerable selling experience and is quite prepared to undertake any reasonable proposition that will give him the opportunity of introducing Canadian goods in foreign markets. His references are good.

161. England.—A London firm of wholesale and manufacturing confectioners would be glad to receive offers of chocolates and other confectionery from Canadian manufacturers.

162. Doors.—A Liverpool firm of builders' merchants, who expect to have large requirements of imported doors early next year, ask to be placed in touch with exporters.

163. Halifax.—A firm in Halifax asks to be placed in touch with exporters of annealed No. 14 wire for re-drawing.

164. Hickory Squares.—A West Hartlepool firm makes inquiry for hickory squares 45 in. by ⅞ in. by ⅞ in., and 42 in. by ⅞ in. by ⅞ in.

165. Dowels.—A West Hartlepool firm makes inquiry for birch and maple dowels 12 in. rising by 6 in. lengths to 72 in., and in diameter 3-16 in. rising by 1-16 in. to 1 in.

166. Wire.—A Warrington firm asks for quotations on the following classes of wires in 50 to 100 ton lots: Netting weaving wires, 19 to 22½ S. W. G., tinned mattress wire 22½ to 24 S.W.G., hard drawn wire from 6 to 12 S.W.G.

167. England.—A Liverpool firm asks to be placed in touch with exporters of the above.

168. Wire Rods.—A Lancashire firm ask for quotations on open hearth basis wire rods .50 per cent., .60 per cent. carbon, in 5 or 6 standard gauge, which is .212 in., or .192 in. diameter, in coils of not less than 120 lbs.

169. Tinned Wire.—A Warrington firm asks to be placed in touch with exporters of tinned bottling and mattress wire.

170. Belgium.—A Belgian company which are large and regular buyers of counter-veneered three-ply birchwood panels and other veneers, would be glad to negotiate with Canadian manufacturers who can supply what is required. Sample and specifications available at the Department of Trade and Commerce.

Moving to Japan

Breweries Located in British Columbia Are Being Transferred Across the Pacific

According to *Industrial Progress* of Vancouver, machinery is being removed from the plants of the old Vancouver Breweries Company, Vancouver, and the Union Brewing Company, Nanaimo, to be shipped immediately to Japan for use in a big brewery that will be erected there shortly with Canadian and Japanese capital. The new company in Japan, known as the Anglo-Japanese Brewing Company, has been organized with a paid-up capital of $1,000,000. Mr. George Reifel, son of Mr. Henry Reifel, head of the British Columbia Breweries, formed the concern after a year's residence at Tokyo. The plant will be located between Tokyo and Yokohama, and will manufacture principally for export to Calcutta, Singapore, Bombay and other Far Eastern points. The capacity of the plant will be 3,000,000 gallons annually.

HON. FINLAY G. MACDIARMID,
Minister of Public Works

W. A. RIDDELL, M.A., Ph.D.,
Superintendent

TRADES AND LABOUR BRANCH
DEPARTMENT OF PUBLIC WORKS

THE TRADES AND LABOUR BRANCH administers the following:

The Trades and Labour Branch Act
The Bureau of Labour Act
The Stationary and Hoisting Engineers Act
The Building Trades Protection Act
The Factory, Shop and Office Building Act
The Steam Boiler Act
Employment Bureaus
Investigation and Research

Employment offices are in operation in 35 cities and towns of the Province, and are the Ontario units of the recently organized "Employment Service of Canada."

Are you getting your help through the medium of the employment service, which you as a taxpayer are helping to support?

The value of these bureaus will increase in proportion to the extent to which they are used by employers.

NOTICE TO STEAM USERS:

At the last Session of the Legislature, the Act respecting Stationary and Hoisting Engineers was amended, said amendment requires that on and after January the 1st, 1920, all stationary steam plants in the Province of Ontario must be registered with the Board of Stationary and Hoisting Engineers. Application forms for this purpose will be forwarded on request. The boiler horsepower and other information contained in these application forms is to be used for statistical purposes.

A Registration Certificate will be issued to each applicant.

W. C. McGHIE,
Chairman of Board
15 Queen's Park, Toronto

Buyers' Guide to Canadian Manufactures

List of Articles which will Enable the Purchaser to Know the Manufacturers of Made-in-Canada Goods. For Rates of Insertion in this Department write to the Advertising Manager of INDUSTRIAL CANADA, C.M.A., Toronto, Ont.

ABATTOIR MACHINERY AND SUPPLIES
*The John Whitfield Company, Toronto, Ont.
ABRASIVES
*Coralox, Limited, Hamilton, Ont.
*Canadian Hart Wheels, Limited, Hamilton, Ont.
*Dominion Abrasive Wheel Co., New Toronto, Ont.
ACCOUNT BOOKS
*The Brown Bros., Ltd., Toronto.
ACETYLENE GAS
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.
ACETYLENE GAS BURNERS
Economic Acetylene Burner Co., Toronto, Ont.
*The Prest-O-Lite Company of Canada, Ltd., Toronto, Ont.
ACIDS
*The Grasselli Chemical Co., Ltd., Toronto.
*The Nichols Chemical Co., Ltd., Montreal, Que.
ADVERTISING NOVELTIES
Lawson & Jones, Ltd., London, Ont.
AERATED BEVERAGES
Charles Gurd & Co., Ltd., Montreal, Que.
J. J. McLaughlin, Ltd., Toronto.
AIR COMPRESSORS
*Canadian Ingersoll-Rand Co., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
AIR DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
ALCOHOL
*Canadian Industrial Alcohol Company, Ltd., Montreal, Que.
Hiram Walker & Sons, Limited, Walkerville, Ont.
ALUMINUM
*Northern Aluminum Co., Ltd., 1805 Traders Bank, Toronto,
ALUMINUM CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.
AMMONIA
Canadian Ammonia Co., Ltd., Toronto, Ont.
ANCHORS, all steel
Beauchemin & Fils, Ltd., Sorel, Que.
ANGLE BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, Que.
*The Steel Company of Canada, Ltd., Hamilton, Ont.
ARSENIC
*Deloro Smelting & Refining Co., Limited. Deloro, Ont.
ARTIFICIAL LIMBS
Chesley Artificial Limb Co., Ltd., Hanstport, N.S.
ASBESTOS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.
ASBESTOS SHEATHING
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.
ASBESTOS SHEET AND PISTON PACKINGS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.
ASBESTOS STEAM PIPE AND BOILER COVERINGS
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.
ASBESTOS TEXTILES
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.
ATTACHMENT PLUGS
*Crouse-Hinds Co., Ltd., Toronto.
AUTOGRAPHIC REGISTERS
*Autographic Register Co., Ltd., Montreal, Que.
AUTOGRAPHIC REGISTER SYSTEMS
Business Systems, Ltd., Toronto.

AUTOMOBILE ACCESSORIES
*McKinnon Industries Limited, St, Catharines, Ont.
*Northern Electric Co., Limited, Montreal, Que.
*Tallman Brass & Metal Co., Hamilton, Ont.
AUTOMOBILE PARTS
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McKinnon Industries Limited, St. Catharines, Ont.
AWNING CORD (cotton)
Hamilton Cotton Co., Hamilton, Ont.
AXLES
Canada Forge Co., Ltd., Welland, Ont.
Guelph Spring & Axle Co., Ltd., Guelph, Ont.
AXLES, carriage and automobile
Guelph Spring & Axle Co., Ltd., Guelph, Ont.
BABBITT METAL
Alonzo W. Spooner, Ltd., Port Hope, Ont.
*The Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
BACON
E. W. Fearman Co., Ltd., Hamilton, Ont.
BAGS
*Scythes & Co., Ltd., Toronto.
BAGS, Cotton
The Canadian Bag Co., Limited, Montreal, Que.
BAGS, jute
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Ltd., Toronto.
BAGS, travelling
J. Eveleigh & Co., Ltd., Montreal.
Lamontague, Ltd., Montreal, Que.
The M. Langmuir Mfg. Co., of Toronto, Ltd., Toronto, Ont.
BAND RESAWS
*Canada Machinery Corporation, Limited, Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
BAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
BANK FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.
BANK AND OFFICE RAILINGS AND CAGES
*Canada Wire and Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*The Geo. B. Meadows, Toronto, Wire, Iron & Brass Works Co., Ltd., Toronto, Ont.
BANK SIGNS AND FITTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.
BARRELS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
BARS, iron
London Rolling Mill Co., Ltd., London, Ont.
BARS, steel
London Rolling Mill Co., Ltd., London, Ont.
BASEBALL GOODS
A. J. Reach Co., Brantford, Ont.
BATHS, enamelled
Amherst Foundry Co., Ltd., Amherst, N.S.
BATTERIES, dry
The Canadian National Carbon Co., Ltd., Toronto, Ont.
BATTERIES, Flashlight
The Canadian National Carbon Co., Ltd., Toronto, Ont.
BATTERIES, Storage
The Canadian National Carbon Co., Ltd., Toronto, Ont.

BEARINGS
*The Chapman Double Ball Bearing Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
BEARINGS, bronze
*Tallman Brass & Metal Co., Hamilton, Ont.
BEARINGS, pillow block and upright
*Canadian Fairbanks-Morse Company, Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
BEDS, camp folding
*Otterville Mfg. Co., Ltd., Otterville, Ont.
BEEF
E. W. Fearman Co., Ltd., Hamilton, Ont.
BELTING, chains
*Canadian Link-Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
BELTING, elevator
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
BELTING, leather
The Beardmore Belting Co., Ltd., Toronto, Ont.
*J. L. Goodhue & Co., Danville, Que.
*Sadler & Howarth, Montreal.
*The D. K. McLaren Belting Co., Ltd., Montreal, Que.
*The J. C. McLaren Belting Co., Ltd., Montreal, Que.
BELTING, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha and Rubber Ltd., Toronto, Ont.
BELTING, stitched cotton duck
*Dominion Belting Co., Ltd., Hamilton, Ont.
BENT GOODS
The Crown Lumber Co., Woodstock, Ont.
BICYCLES AND ACCESSORIES
*Canada Cycle and Motor Co., Ltd., Toronto, Ont.
BISCUITS
The Montreal Biscuit Co., Montreal, Que.
BLACK SHEETS
*A. C. Leslie & Co., Montreal, Que.
BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Ltd., Bolton, Ont,
BLANKETS, horse
Slingsby Mfg. Co., Ltd., Brantford, Ont.
J. Walsham & Son, Ltd., Bolton, Ont.
BLASTING ACCESSORIES
Canadian Explosives, Ltd., Montreal, Que.
BLEACHING POWDER
Canadian Salt Co., Ltd., Windsor Ont.
BLOWERS
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
BOATS OF ALL KINDS
Peterboro Canoe Co., Ltd., Peterboro, Ont.
BOBBINS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
BOILER COMPOUND AND OILS
Electric Boiler Compound Co., Ltd., Guelph, Ont.

BOILERS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Darling Bros., Montreal, Que.
*Goldie & McCulloch Co., Limited, Galt, Ont.
*Lauzon Engineering Ltd., Levis, Que.
J. & R. Weir, Montreal, Que.
Taylor-Forbes Co,, Ltd., Guelph,
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
BOILERS, hot water or steam
Steel & Radiation Ltd., Toronto.
Warden King, Ltd., Montreal.
BOILERS, steam
Canadian Ingersoll-Rand Co., Sherbrooke, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
BOILERS, steam and brass work
*The Waterous Engine Works Co., Ltd,, Brantford, Ont.
BOILER STANDS
Anthes Foundry Ltd., Toronto.
BOLSTERS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
BOLTS AND NUTS
*The Canadian Tube & Iron Co., Ltd., Montreal, Que.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Company of Canada, Ltd., Hamilton, Ont.
Starr Mfg. Co., Ltd., Dartmouth, N.S.
BOOKBINDERS
R. G. McLean, Toronto.
*The Brown Bros., Ltd., Toronto.
The Mortimer Co., Ltd., Ottawa, Ont.
BOOKCASES
*Office Specialty Mfg. Co., Ltd,, Newmarket, Ont.
BOOKCASES, sectional (Gunn)
The George McLagan Furniture Co., Ltd., Stratford, Ont.
BOOKLETS
R. G. McLean, Toronto.
BOOKS, blank
*The Brown Bros., Ltd., Toronto.
BOOTS AND SHOES
Ames-Holden-McCready, Limited, Montreal, Que.
J. Leckie Co., Ltd.
The John Ritchie Co., Ltd., Quebec, Que.
BOXES
*Crouse-Hinds Co., Ltd., Toronto.
BOXES, cellular board
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls.
BOXES, rattle and soap
The Arlington Co. of Canada, Ltd., Toronto, Ont,
BOXES, steel shop
*Steel Trough and Machine Co., Ltd., Tweed, Ont.
BOXES AND SHOOKS, wooden
The C. Beck Mfg. Co., Ltd., Penatanguishene, Ont.
BOXES, wooden
G. & J. Esplen, Montreal, Que.
Barchard & Co., Ltd., Toronto.
BOXBOARDS, for making paper boxes
*Canada Boxboard Co., Limited, Montreal, Que.
BRAIDS AND TRIMMINGS
The Moulton Mfg. Co., Limited, Montreal, Que.
BRAKE SHOES
*Canadian Hart Wheels, Limited, Hamilton, Ont.
BRAKE SHOE BACKS
*The John Whitfield Company, Toronto, Ont.
BRANDS, burning
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

*For Display Advertisement see Index, Page 43

BRASS BOLTS AND NUTS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS AND BRONZE WIRE
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

BRASS, BRONZE and ALUMINUM LETTERS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS ENGRAVERS
Pritchard, Andrews Co, of Ottawa, Ltd., Ottawa, Ont.

BRASS FOUNDERS AND FINISHERS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS GOODS
*The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Mueller Mfg. Co., Sarnia, Ont.
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
*The Kerr Engine Co., Limited, Walkerville, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS PLATES
Geo. Booth & Son, Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS RODS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS RODS, SHEETS AND PLATES
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

BRASS SHEETS AND PLATES
*Dominion Copper Products Company, Ltd., Montreal, Que.

BRASS SIGNS AND MEMORIALS
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS TUBING, seamless
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Company, Ltd., Montreal, Que.

BRASS WIRE
Canadian Seamless Wire Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

BRASS WORK, church
Pritchard, Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

BRASS WORK, special
Bawden Machine Co., Ltd., Toronto, Ont.
*H. Mueller Mfg. Co., Ltd., Sarnia, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

BRICK
National Brick Co. of Laprairie, Laprairie, Que.
Port Credit Brick Co., Port Credit, Ont.
The Citadel Brick & Paving Block Co., Ltd., Quebec, Que.

BRICK, enamel
National Brick Co. of Laprairie, Laprairie, Que.

BRICK, pressed
National Brick Co. of Laprairie, Laprairie, Que.
The Citadel Brick & Paving Block Co., Ltd., Quebec, Que.

BRICK, rubbing
*Canadian Hart Wheels, Limited, Hamilton, Ont.

BRICK, sewer.
National Brick Co. of Laprairie, Laprairie, Que.

BRIDGES, Railway and Highway
*Hamilton Bridge Works Co., Ltd., Walkerville, Ont.
*The Canadian Bridge Co., Ltd., Hamilton, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
*Dominion Bridge Co., Montreal.
*Mackinnon Steel Co., Ltd., Sherbrooke, Que.
*Manitoba Bridge & Iron Works, Ltd., Winnnpeg, Man,

BROOMS
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Limited, Port Elgin, Ont.

BRONZE SHEETS AND PLATES
*Dominion Copper Products Company, Ltd., Montreal.

BRONZE SHEETS, RODS, PLATES
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

BRONZE TUBING, seamless
*Dominion Copper Products Company, Limited, Montreal,

BRUSHES
Simms, T. S., & Co., Limited, St. John, N.B.
Stevens-Hepner Co., Ltd., Port Elgin, Ont.

BRUSHES, carbon
Canadian National Carbon Co., Ltd., Toronto.

BUCKET TANKS
*MacKinnon Steel Co., Ltd,, Sherbrooke, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.

BUCKLES, shoe and coat
Parmenter & Bulloch Co., Limited, Gananoque, Ont.

BUCKLES, harness and trunk
*McKinnon Industries, Ltd., St. Catharines, Ont.

BUILDING BLOCKS, vitrified, salt glazed
Standard Clay Products, Ltd., St. Johns, Que.

BUILDING FELT AND PAPER
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont,
*The Barrett Co., Ltd., Toronto and Montreal.

BURLAPS
The Canadian Bag Co., Limited, Montreal, Que.
*Scythes & Co., Ltd., Toronto.

BURLAPS, decorative
Dominion Oil Cloth Co., Limited, Montreal, Que.

CABLE ACCESSORIES
*Crouse-Hinds Co., Ltd., Toronto.

CABLES, electric light, power, telephone and telegraph
*Standard Underground Cable Co. of Canada, Ltd,, Hamilton, Ont.

CABLES, transmission and telephones
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.

CABLES, transmission and cable
*Northern Electric Co., Ltd., Montreal, Que.

CABLES, wire
The Dominion Wire Rope Co., Ltd., Montreal, Que.
*The B. Greening Wire Co., Ltd., Hamilton, Ont.

CALENDARS, ADVERTISING NOVELTIES, etc.
Lawson & Jones, Ltd., London.

CAMERAS
Canadian Kodak Co., Ltd., Toronto, Ont.

CAMPERS' OUTFITTERS
Slingsby Mfg. Co., Ltd., Brantford, Ont.

CANADA SILVER
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto.

CANOES
Peterboro Canoe Co., Ltd., Peterboro, Ont.
*Canadian Canoe Co., Ltd., Peterboro, Ont.

CANS, baking powder, etc.
American Can Co., Montreal (Que.) and Hamilton (Ont.).
A. R. Whittall Can. Co., Ltd., Montreal, Que.
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANS, fruit
American Can Co., Montreal (Que.) and Hamilton (Ont.).
A. R. Whittall Can. Co., Ltd., Montreal, Que.
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANS, iron, lead and putty
A. R. Whittall Can. Co., Ltd., Montreal, Que.

CANS, tin
A. R. Whittall Can Co., Ltd., Montreal, Que.
American Can Co., Montreal (One.) and Hamilton (Ont.).
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

CANVAS
*Scythes & Co., Ltd., Toronto, Ont.

CAPS, cloth
John W. Peck & Co., Ltd., Montreal, Que.

CAPS FOR HUBS
*McKinnon Industries, Ltd., St. Catharines, Ont.

CARBIDE
*Canada Carbide Co., Ltd., Montreal, Que.
*Union Carbide Co. of Canada, Ltd. Works, Welland, Ont. Head Office, Toronto, Ont.

CARBONS, electric
Canadian National Carbon Co., Ltd., Toronto, Ont.

CARBONS (headlight)
*Crouse-Hinds Co., Ltd., Toronto.

CARBONIC ACID GAS
Canadian Carbonate Co., Montreal.

CARD RECORD SYSTEMS
Lowe-Martin Co., Ltd., Ottawa, Ont.
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

CARPETS AND RUGS
Toronto Carpet Mfg. Co., Limited, Toronto.

CARPETS AND RUGS, Axminster and ingrain
Toronto Carpet Mfg. Co., Ltd.

CARPETS AND RUGS, Brussels and Wilton
Toronto Carpet Mfg. Co., Ltd., Toronto, Ont.

CARPET YARNS, worsted and wool
Toronto Carpet Mfg. Co., Ltd., Toronto, Ont.

CARRIAGE CASTINGS
*McKinnon Industries, Ltd., St. Catharines, Ont.

CARRIAGES, baby, etc.
Canada Furniture Manufacturers, Ltd., Woodstock, Ont.

CARRIERS
*Richards-Wilcox Canadian Co., Ltd., London, Ont.

CARRIERS, box and barrel
*Canadian Mathews Gravity Carrier.

CARRIERS, brick
*Canadian Mathews Gravity Carrier Co., Limited, Toronto.
*Richards-Wilcox Canadian Co., Ltd., London, Ont.

CARS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*National Steel Car Co., Ltd., Hamilton, Ont.

CARS, industrial
Hammant Steel Car & Engineering Works, Hamilton, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.

CARTONS, lithographed
Harris Lithographing Co., Ltd., Toronto, Ont.

CASTINGS
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, aluminum
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, brass
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Lauzon Engineering, Ltd., Levis, Que.
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, brass and bronze
*Tallman Brass & Metal Co., Hamilton, Ont.

CASTINGS, grey iron
*Canadian Rumely Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.
*Dodge Mfg. Co., Toronto.
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Wm. Kennedy & Sons, Ltd., Owen Sound, Ont.
*Lauzon Engineering, Ltd., Levis, Que.

CASTINGS, malleable iron
*Crouse-Hinds Co., Ltd., Toronto.
*Galt Malleable Iron Co., Ltd., Galt, Ont.

CASTINGS, steel
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Founderies, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton, Ont.
*Electric Steel & Metals Co., Ltd., Welland, Ont.
*Hull Iron & Steel Foundry, Ltd., Hull, P.Q.
*Wm. Kennedy & Sons, Ltd., Owen Sound, Ont.

CATALOGUE MAKERS
Grip, Ltd., Toronto, Ont.

CATALOGUE COVERS, by new lithographing process
Harris Lithographing Co., Ltd., Toronto, Ont.

CAUSTIC SODA
Canadian Salt Co., Ltd., Windsor.

CAUSTICS
*Dominion Oil Co., Ltd., Hamilton.

CELLBOARD
Adams Cellboard Co., Toronto.

CEMENT GUNS
Steel & Radiation, Ltd., Toronto.

CENTRIFUGAL PUMPS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

CHAINS, for elevators, conveyors and drives
*Canadian Link-Belt Co., Toronto.

CHAINS, sling
*The John Whitfield Co., Toronto.

CHAIRS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

CHAIRS, assembly hall
Stratford Mfg. Co., Ltd., Stratford, Ont.

CHAIRS, folding
Stratford Mfg. Co., Ltd., Stratford, Ont.

CHAIRS, rattan and upholstered
Imperial Rattan Co., Ltd., Stratford, Ont.

CHAIRS FOR AUTOMOBILES, camp, boat
*McKinnon Industries, Ltd., St. Catharines, Ont.

CHECKS, swing checks, etc.
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

CHEMICALS
Canadian Laboratory Supplies, Ltd., Toronto, Ont.
*Dominion Oil Co., Ltd., Hamilton, Ont.
*The Grasselli Chemical Co., Ltd., Toronto, Ont.
*The Nichols Chemical Co., Ltd., Montreal, Que.

CHEMISTS, industrial
*Milton Hersey Co., Montreal.

CHICLETS AND CHEWING GUM
Canadian Chewing Gum Co., Ltd., Toronto, Ont.

CIRCULAR CUTTERS, solid steel
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Ltd., Galt, Ont.

CIRCULAR SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.

CLAM SHELL BUCKETS
*M. Beatty & Sons, Ltd., Welland, Ont.

CLOCKS, time
*International Business Machines Co., Ltd., Toronto.

CLOCKS, watchmen's
*The Bennett & Wright Co., Ltd., Toronto, Ont.

CLOSET SEATS
*Goderich Organ Co., Goderich,Ont.

CLOTHING
John W. Peck & Co., Ltd., Montreal, Que.

CLOTHING, leather and sheepskin lined coats
*A. R. Clarke & Co., Ltd., Toronto.

CLOTHING, Mackinaw
The Carss Mackinaw Clothing Co., Ltd., Orillia, Ont.

CLOTHES LINES, cotton
Hamilton Cotton Co., Hamilton, Ont.

CLUTCHES
*Dodge Mfg. Co., Ltd., Toronto.

CLUTCHES, conveyors
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

*For Display Advertisement see Index, Page 43

COAL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
Standard Fuel Co., Toronto, Ont.
COAL CUTTERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal.
COBALT OXIDE
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
The Coniagas Reduction Co., Ltd., St. Catharines, Ont.
COBALT METAL
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
COFFEE
S. H. Ewing & Sons, Montreal.
COLD DRAWN SHAPES, flats, squares and hexagons
*The Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.
COLD STORAGE DOORS
John Hillock & Co., Ltd., Toronto.
COLLAR BUTTONS
The Arlington Co. of Canada, Ltd., Toronto, Ont.
COLLARS
The Standard Shirt Co., Ltd., Montreal, Que.
COLLARS, coated linen
Parsons & Parsons Canadian Co., Hamilton, Ont.
COLLARS, shaft
Bond Engineering Co., Toronto.
COLORS
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal.
COMBS, fine dressing and name
The Arlington Co. of Canada, Ltd., Toronto, Ont.
COMMERCIAL STATIONERY
*Brown Bros., Ltd., Toronto, Ont.
CONCRETE COATINGS, PAINTS, Etc.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
CONDUITS FOR INTERIOR WIRING
*Conduits Co., Ltd., Toronto, Ont.
CONDULET BOX FITTINGS
*Crouse-Hinds Co., Ltd., Toronto.
CONDULETS (marine)
*Crouse-Hinds Co., Ltd., Toronto.
CONFECTIONERY
Ganong Bros., Ltd., St. Stephens, N.B.
Moirs, Ltd., Halifax, N.S.
The Montreal Biscuit Co., Montreal, Que.
CONTAINER BOARD—strong container
Bathurst Lumber Co., Ltd., Bathurst, N.B.
CONTRACTOR'S PLANT
*M. Beatty & Sons, Ltd., Welland, Ont.
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
Canadian Ingersoll-Rand Co., Sherbrooke, Que.
CONVEYORS
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
COPPER
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
COPPER, SHEETS, PLATES, BARS, RODS
*Brown's Copper and Brass Rolling Mills, Ltd., New Toronto, Ont.
COPPER SHEETS AND PLATES
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Co., Ltd., Montreal, Que.
COPPERSMITHS
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
COPPER TUBING, seamless
*Dominion Copper Products Co., Ltd., Montreal, Que.
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.

COPPER WIRE
Canadian Seamless Wire Co., Ltd., Toronto, Ont.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
CORKS
S. H. Ewing & Sons, Montreal, Que.
CORK CARPET
Dominion Oil Cloth Co., Ltd., Montreal, Que.
CORRUGATED PAPER BOXES
Adams Cellboard Co., Toronto.
Corrugated Paper Box Co., Ltd., Toronto, Ont.
*Hinde & Dauch Paper Co., Toronto, Ont.
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
CORUNDUM, artificial
*Coralox, Ltd., Hamilton, Ont.
CORSETS
Dominion Corset Co., Quebec, Que.
COTTONS
*Dominion Textile Co., Ltd., Montreal, Que.
*Montreal Cottons, Ltd., Valleyfield, P.Q.
COTTONADES
Hamilton Cotton Co., Hamilton, Ont.
COUPLERS
*Canadian Steel Foundries, Ltd., Welland, Ont.
COUPLINGS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
CRANES
*Northern Crane Works, Walkerville, Ont.
*The Herbert Morris Crane and Hoist Co., Ltd., Niagara Falls, Ont.
CRANKSHAFTS
Canada Forge Co., Ltd., Welland, Ont.
*The John Whitfield Co., Toronto, Ont.
CREAM CHEESE, Ingersoll
The Ingersoll Packing Co., Ltd., Ingersoll, Ont.
CREAM SEPARATORS AND MILK CLARIFIERS
De Laval Dairy Supply Co., Peterboro, Ont.
The Renfrew Machinery Co., Ltd., Renfrew, Ont.
CREAMERY AND CHEESE FACTORY MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
CREOSOTED MATERIALS
*The Barrett Co., Ltd., Toronto and Montreal.
CRUCIBLES, plumbago
Dominion Crucible Co., Ltd., Montreal, Que.
CRUSHED STONE
The Hagersville Contracting Co., Ltd., Hagersville, Ont.
CUPOLAS
*Sheldons, Ltd., Galt, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
CUPS, presentation
Standard Silver Co., Toronto, Ont.
CURLED HAIR
*Delany & Pettit, Ltd., Toronto.
CURTAINS, chenille
Hamilton Cotton Co., Hamilton, Ont.
CUTLERY
Standard Silver Co., Toronto, Ont.
CUTTERS, machine
*Pratt & Whitney Co., Dundas, Ont.
DASHES, for buggy and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
DECALCOMANIA TRANSFERS
Canada Decalcomania Co., Toronto, Ont.
DECK PLUGS, electric marine
*Crouse-Hinds Co., Ltd., Toronto.
DENIMS
Hamilton Cotton Co., Hamilton, Ont.
DERAILS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
DESIGNERS
Ontario Engraving Co., Hamilton, Ont.
DESIGNERS AND PRINTERS OF BOOKLETS, Etc.
Grip, Ltd., Toronto, Ont.

DESKS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
DESICCATED VEGETABLES
Grahams, Ltd., Belleville, Ont.
DINING ROOM SUITES
The George McLagan Furniture Co., Ltd., Stratford, Ont.
DIES
*Butterfield & Co., Rock Island, P.Q.
*Pratt & Whitney Co., Dundas, Ont.
*John Whitfield Co., Toronto.
DISINFECTING APPARATUS
Spramotor Co., London, Ont.
DOOR HANGERS
*Richards Wilcox Canadian Co., Ltd., London, Ont.
DOUBLETREES
*McKinnon Industries, Ltd., St. Catharines, Ont.
DREDGES
*M. Beatty & Sons, Ltd., Welland, Ont.
DRESSING, belt
Sadler & Haworth, Montreal, Que.
DRESS AND CLOAK TRIMMINGS
J. Henry Peters Co., 1 Mincing St., Toronto, Ont.
DRIFT BOLT DRIVERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILL PRESSES
*Canada Machinery Corporation, Ltd., Galt, Ont.
DRILL SHARPENERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILLS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*Pratt & Whitney Co., Dundas, Ont.
DRILLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRILLS, rock
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
DRIFT BOLTS OR SPIKES
London Rolling Mill Co., Ltd., London, Ont.
DROP FORGINGS.
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
DROP HAMMERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
DRUMS, steel, and containers
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
DRY COLORS
P. D. Dods & Co., Ltd., Montreal.
The Imperial Varnish & Color Co., Ltd., Toronto.
R. C. Jamieson & Co., Ltd., Montreal, Que.
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
DUMB WAITERS
Turnbull Elevator Mfg. Co., Toronto, Ont.
DURABLE WIRE ROPE
The Dominion Wire Rope Co., Ltd., Montreal, Que.
DYNAMITE
Canadian Explosives, Ltd., Montreal, Que.
DYNAMOS
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
DYNAMOS, plating
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
EIDERDOWN
Galt Knitting Co., Ltd., Galt, Ont.
ELECTRIC APPLIANCES
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
ELECTRICAL COMPOUNDS
Standard Paint Co. of Canada, Ltd., Montreal, Que.
ELECTRIC COOKING APPLIANCES
*Canadian General Electric Company, Ltd., Toronto.
ELECTRIC LAMPS
Packard Electric Co., Ltd., Toronto, Ont.

ELECTRIC PLATE WARE
Roden Bros., Ltd., Toronto, Ont.
ELECTRIC BRANDING TOOLS
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
ELECTRIC RAILWAY EQUIPMENT
*Crouse-Hinds Co., Ltd., Toronto.
ELECTRODES, carbon
Canadian National Carbon Co., Ltd., Toronto, Ont.
ELECTROTYPING
Central Press Agency, Ltd., Toronto.
ELECTRICAL SUPPLIES
*Canadian General Electric Company, Ltd., Toronto, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
*Jones & Moore Electric Co., Ltd.,
*Northern Electric Co., Ltd., Montreal, Que.
ELECTRIC SOLDERING IRON
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
ELECTRO-SILVER PLATED WARE
Standard Silver Co., Toronto, Ont.
ELEVATING MACHINERY
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Toronto, Ont.
ELEVATORS
*Jenckes Machine Co., Sherbrooke, Que.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
Turnbull Elevator Mfg. Co., Toronto, Ont.
*The Waterous Engine Works Co., Ltd,, Brantford, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
ELEVATORS FOR ALL PURPOSES
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
ELEVATOR GATES AND DOORS
Turnbull Elevator Mfg. Co., Ltd., Toronto, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
ELEVATOR GUARDS
*The Geo. B. Meadows, Toronto.
Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
*Canada Wire and Iron Goods Co., Hamilton, Ont.
EMERY DRESSERS AND STANDS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY GRINDERS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY WHEELS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
EMERY WHEEL GUARDS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
ENAMELS
R. C. Jamieson & Co., Ltd., Montreal, Que.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
ENAMEL MANUFACTURERS AND DECORATORS
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
ENAMEL AND TIN WARE
McClary Mfg. Co., London, Ont.
ENGINES
*E. Leonard & Sons, London, Ont.
*Goldie & McCulloch Co., Lt., Galt, Ont.
J. & R. Weir, Montreal, Que.
*Lauzon Engineering, Ltd., Levis, Que.
*Sheldons, Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
ENGINES, gas and gasoline
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*Hamilton Motor Works, Ltd., Hamilton, Ont.
*Massey-Harris Co., Ltd., Toronto.
ENGINES, gasoline, tractor, plowing and threshing
*Sawyer-Massey Co., Ltd., Hamilton, Ont.
ENGINES, hoisting
*M. Beatty & Sons, Welland, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

*For Display Advertisement see Index, Page 43

ENGINES, marine, gasoline and kerosene
Bruce, Stewart & Co., Ltd., Charlottetown, P.E.I.
ENGINES, steam plowing and threshing
*Sawyer-Massey Co., Ltd., Hamilton, Ont.
ELECTRICAL AND GAS FIXTURES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
*Tallman, Brass & Metal Co., Hamilton, Ont.
ELECTRIC HEATING APPLIANCES
*Canadian General Electric Co., Ltd., Toronto, Ont.
ENGRAVERS, photo
Grip, Ltd., Toronto, Ont.
Ontario Engraving Co., Hamilton, Ont.
The Mortimer Co., Ltd., Ottawa.
ENGRAVERS, half-tone
Grip, Ltd., Toronto.
Ontario Engraving Co., Hamilton, Ont.
ENGRAVERS, wood
Ontario Engraving Co., Hamilton, Ont.
ENGRAVERS AND PRINTERS steel plate
American Bank Note Co., Ottawa, Ont.
ENGRAVERS AND PRINTERS bank note
American Bank Note Co., Ottawa, Ont,
ENGRAVING
*J. L. Jones Engraving Co., Toronto, Ont.
ENGRAVING, copper and steel plate
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
ENSILAGE AND STRAW CUTTERS
J. Fleury's Sons, Aurora, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
EVAPORATED APPLES
Grahams, Ltd., Belleville, Ont.
ENVELOPES
Barber-Ellis Co., Ltd., Toronto.
Canada Envelope Co., Montreal, Que.
EVENERS, for 2, 3, 4, 6 and 8 horses
*McKinnon Industries, Ltd., St. Catharines, Ont.
EXCELSIOR
*Delany & Pettit, Ltd., Toronto.
EXCELSIOR PADS
Parmenter & Bulloch Co., Ltd., Gananoque, Ont.
EXPERTS IN PATENT CAUSES
Ridout & Maybee, Toronto, Ont.
EXPLOSIVES, high
Canadian Explosives, Ltd., Montreal, Que.
FACE PLATE JAWS
Ker & Goodwin, Brantford, Ont.
FACTORY SUPPLIES, cheese and creamery
De Laval Dairy Supply Co., Ltd., Montreal, Que.
FANS
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
FASTENERS, belt
*Sadler & Haworth, Montreal, Que.
FELTS, pulp and paper makers
Ayers, Ltd., Lachute Mills, P.Q.
*Beveridge Paper Co., Ltd., Montreal, Que.
FENCES AND GATES
*Dennis Wire & Iron Works Co., London, Ont.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
FENCING AND GATES, woven wire
*Canada Wire and Iron Goods Co., Hamilton, Ont.
FENCING, wire
C. H. Johnson & Sons, Ltd., Montreal, Que.
FENDERS, for buggy and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
FIBRE PAILS
*The E. B. Eddy Co., Ltd., Hull, Que.

FILES
Henry Disston & Sons, Ltd., Toronto, Ont.
*The Nicholson File Co., Port Hope.
FILING CABINETS
*Office Specialty Co., Newmarket, Ont.
FILING EQUIPMENT, wood & steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
FILING SYSTEMS
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
Lowe-Martin Co., Ltd., Ottawa, Ont.
FIRE ALARMS
*Northern Electric Co., Ltd., Montreal, Que.
FIRE BRICK
Dominion Fire Brick & Clay Products, Ltd., Moose Jaw, Sask.
FIRE BRICK AND CLAY
Dominion Fire Brick & Clay Products, Ltd., Moose Jaw, Sask.
FIRECLAY
Jas. W. Foley & Co., St. John, N.B.
FIRE DOOR HARDWARE
Richards Wilcox Canadian Co., Ltd., London, Ont.
FIRE DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People, Ltd., Oshawa, Ont.
FIRE ENGINES
*Waterous Engine Works Co., Ltd., Brantford, Ont.
FIRE ESCAPES
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
FIRE EXTINGUISHERS
*A. B. Ormsby Co., Ltd., Toronto.
*Booth-Coulter Copper & Brass Co., Ltd., Montreal, Que.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
FIRE FIGHTING APPARATUS
*Waterous Engine Works Co., Ltd., Brantford, Ont.
FIRE HOSE
*Canadian Consolidated Rubber Co. of Canada, Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber, Ltd., Toronto, Ont.
FIRE PREVENTION MATERIAL
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*Eureka Mineral Wool & Asbestos Co., Toronto.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
FIRE PROOF WINDOWS AND DOORS
*A. B. Ormsby Co., Ltd., Toronto.
*Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
FIRE SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy Mansell Co., Toronto, Ont.
*H. G. Vogel Co., Montreal, Que.
FIRE AND WATER DEPARTMENT
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
The Garth Co., Montreal, Que.
FISH, Atlantic Sea-Foods
Maritime Fish Corporation, Ltd., Montreal, Que.
FITTINGS FOR SOIL PIPE
Anthes Foundry, Ltd., Toronto.
FITTINGS, steam
Warden King Ltd., Montreal, Que.
FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.
FLAGS
*Scythes & Co., Ltd., Toronto, Ont.
FLANGES, for wheels
*McKinnon Industries, Ltd., St. Catharines, Ont.
FLOODLIGHTS, electric
*Crouse-Hinds Co., Ltd., Toronto.
FLOORING, hardwood
Seaman Kent Co., Ltd., Meaford, Ont.
FLOUR MILL MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
FLUE LINERS
Standard Clay Products, Ltd., St. Johns, Que.

FORGES
*Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
*Sheldons, Ltd., Galt, Ont.
FORGINGS
Canada Forge Co., Ltd., Welland, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*McKinnon Industries, Ltd., St. Catharines. Ont.
*The John Whitfield Co., Toronto.
FORGINGS, drop
*Canadian Billings & Spencer, Ltd., Welland, Ont.
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
FOUNDRY EQUIPMENT
*Northern Crane Works, Ltd., Walkerville, Ont.
FOUNTAIN FRUITS AND JUICES
J. J. McLaughlin, Ltd., Toronto.
FOUNTAINS, drinking
*Mueller Mfg. Co., Ltd., Sarnia, Ont.
FRICTION CLUTCH PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.
FROGS AND CROSSINGS, manganese
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.
FUEL
Standard Fuel Co., Toronto, Ont.
FUR GARMENTS, men's and women's
Holt, Renfrew, Ltd., Quebec.
FUR GOODS
John W. Peck & Co., Ltd., Montreal, Que.
FUR TRIMMINGS, ornaments and buttons
J. Henry Peters Co., 1 Mincing St., Toronto, Ont.
FURNACES
McClary Mfg. Co., London, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
FURNITURE, hall
The George McLagan Furniture Co., Ltd., Stratford, Ont.
FURNITURE, office
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.
FURNITURE, reed and rattan
Imperial Rattan Co., Ltd., Stratford, Ont.
FUSE BOXES
*Crouse-Hinds Co., Ltd., Toronto.
FUSE PLUGS AND FUSES, refillable
*The Clemens Electrical Corporation of Canada, Ltd., Hamilton, Ont.
FUSES
*Economy Fuse & Mfg. Co., Montreal, Que.
GALVANIZED IRON
*A. C. Leslie & Co., Montreal.
GALVANIZED SHEETS
*Dominion Sheet Metal Co., Hamilton, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
GALVANIZERS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*The Pedlar People, Ltd., Oshawa.
*McKinnon Industries, Ltd., St. Catharines, Ont.
GASOLINE ENGINES
*Ontario Wind & Pump Co., Ltd., Toronto, Ont.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
London Gas Power Co., London, Ont.
GASOLINE FIRE ENGINES
*Waterous Engine Works Co., Ltd., Brantford, Ont.
GASOLINE STORAGE SYSTEMS, special underground
S. F. Bowser & Co., Toronto.
*Steel Trough & Machine Co., Ltd., Tweed, Ont.
GASOLINE
*The Imperial Oil Co., Ltd., Toronto, Ont.
GAUGES
*Brown Engineering Corporation, Toronto, Ont.
*John Whitfield Co., Toronto.

GEARS, cut
*Brown Engineering Corporation, Toronto, Ont.
*Hamilton Gear and Machine, Toronto.
*Winnipeg Gear & Engineering Co., Ltd., Winnipeg, Man.
*The John Whitfield Co., Toronto.
GELATINE
Canada Gelatine Co., Ltd., Brantford, Ont.
GENERATORS
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
GENERATORS, electric
*Canadian General Electric Co., Ltd., Toronto.
GILDING METAL
*Dominion Copper Products Co., Ltd., Montreal, Que.
GLASSWARE
Dominion Glass Co., Ltd., Montreal, Que.
GLASSWARE, cut
Roden Bros., Ltd., Toronto.
GLASS FOR BUILDINGS
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLASS BENDERS
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLASS, mirror
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
GLOVES AND MITTS
*A. R. Clarke & Co., Ltd., Toronto.
Craig, Cowan Co., Ltd., Toronto.
GLUE
Canada Glue Co., Ltd., Brantford, Ont.
*Delany & Pettit, Ltd., Toronto.
GOLD-FILLED WIRE AND PLATE
Canadian Seamless Wire Co., Toronto, Ont.
GOLD AND SILVER REFINERS
Canadian Seamless Wire Co., Toronto, Ont.
GRAIN CRUSHERS, rapid, easy
J. Fleury's Sons, Aurora, Ont.
GRAPE JUICE
J. J. McLaughlin, Ltd., Toronto.
The Welch Co., Ltd., St. Catharines, Ont.
GRATES
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
GRAVITY CARRIERS
*Canadian Mathews Gravity Carrier Co., Toronto, Ont.
GREASES
*Dominion Oil Co., Ltd., Hamilton, Ont.
GRILLES, metal
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
GRINDER, bench
Bond Engineering Co., Toronto.
GRINDERS, portable
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
GRINDERS, pedestal and bench
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
GRINDING AND POLISHING MACHINERY
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
GRINDING WHEELS
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
*The Dominion Abrasive Wheel Co., Ltd., New Toronto, Ont.
GRINDSTONES
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
GUARDS, condulet
*Crouse-Hinds Co., Ltd., Toronto.
GUNN SECTIONAL BOOKCASES
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
GUY ANCHORS
B. J. Coghlin Co., Ltd., Montreal.
GUL RODS
*Crouse-Hinds Co., Ltd., Toronto.
GYPSUM, crushed
*Albert Mfg. Co., Hillsborough, N.B.
GYPSUM PRODUCTS
*Manitoba Gypsum Co., Ltd., Winnipeg, Man.
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.

*For Display Advertisement see Index, Page 43

HACK SAW BLADES AND FRAMES
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HACK SAW MACHINES
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HALL FURNITURE
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
HAMS
F. W. Fearman Co., Ltd., Hamilton, Ont.
HAMES, steel and iron
*McKinnon Industries, Ltd., St. Catharines, Ont.
HANDLES (axe, pick, sledge hammers, etc.)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.
HANDLES, wood
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
*Toy products, Ltd., Farm Point, Que.
HAND SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HANGERS
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
HARDWARE
*Richards - Wilcox Canadian Co., Ltd., London, Ont.
Taylor-Forbes Co., Ltd., Guelph, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
HARNESS
Lamontagne, Ltd., Montreal, Que.
HATS, men's straw
The Crown Hat Co., Ltd., Galt, Ont.
HARNESS HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.
HATS, ladies' and children's straw
The Crown Hat Co., Ltd., Galt, Ont.
HATS, ladies' and children's felt and beaver
The Crown Hat Co., Ltd., Galt, Ont.
HATS, ladies' felt and straw
Toronto Hat Mfg. Co., Toronto.
HAULAGE, wire rope
The Dominion Wire Rope Co., Ltd., Montreal, Que.
HEADING SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
HEADLIGHT, electric
*Crouse-Hinds Co., Ltd., Toronto.
HEATERS
*Waterous Engine Works Co., Ltd., Brantford, Ont.
HEATERS, feed water
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
HEATING APPLIANCES
*C. A. Dunham Co., Ltd., Toronto.
*Sheldons, Ltd., Galt, Ont.
*The Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
HEATING SYSTEMS
*C. A. Dunham Co., Ltd., Toronto.
HEMLOCK, union and oak sole
Breithaupt Leather Co., Ltd., Kitchener, Ont.
HESSIANS
The Canadian Bag Co., Ltd., Montreal, Que.
*Scythes & Co., Ltd., Toronto.
HINGES
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
HOISTS
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOISTS, electric and pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.
HOISTING MACHINERY
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.

HOOKS, for logging chains
*McKinnon Industries, Ltd., St. Catharines, Ont.
HOSE, fire
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber, Ltd., Toronto, Ont.
HOSE, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
*Gutta Percha & Rubber, Ltd.
HUB CAPS
*McKinnon Industries, Ltd., St. Catharines, Ont.
HUBS, for Ford cars
*McKinnon Industries, Ltd., St. Catharines, Ont.
HYDRAULIC PRESSES
*Bawden Machine Co., Ltd., Toronto, Ont.
*William R. Perrin, Ltd., Toronto
HYDRO-ELECTRIC PLANTS
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
ICE CREEPERS
Parmenter & Bulloch Co., Ltd., Gananoque, Ont.
ICE-MAKING MACHINERY
The Linde Canadian Refrigeration Co., Ltd., Montreal, Que.
INCUBATORS AND BROODERS
Lee Mfg. Co., Ltd., Pembroke, Ont.
INGOT METALS
*Brown's Copper & Brass Rolling Mills, Ltd., New Toronto, Ont.
INSERTED TOOTH SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
INSULATING COMPOUNDS
The Imperial Varnish & Color Co., Ltd., Toronto.
INSULATORS
*Crouse-Hinds Co., Ltd., Toronto.
INTERLOCKING RUBBER TILING
*Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd., Toronto, Ont.
INVERTS
Standard Clay Products, Ltd., St. Johns, Que.
IRON
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
IRON, refined bar
Starr Mfg. Co., Ltd., Dartmouth, N.S.
IRON AND STEEL BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
IRON STAIRWAYS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
IRONWORK, architectural
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
IRONWORK, ornamental
*Canada Wire & Iron Goods Co., Hamilton, Ont.
IRON, LEAD AND PUTTY
A. R. Whittall, Montreal, Que.
IRON PUMPS
*Medicine Hat Pump and Brass Mfg. Co., Medicine Hat, Alta.
JACKS
*Globe Engineering Co., Ltd., Hamilton, Ont.
JAM, canned goods, etc.
E. D. Smith & Son, Ltd.
JAPANS, enamels, etc.
A. Muirhead Co., Ltd., Toronto.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
JIGS AND TOOLS
*Brown Engineering Corporation, Toronto, Ont.
JOINTERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
JELLY POWDER
S. H. Ewing & Sons, Montreal.

JEWELRY, enamelled souvenir
Caron Bros., Montreal, Que.
JEWELRY, gold-filled
Caron Bros., Montreal, Que.
JOIST HANGERS
*Richards - Wilcox Canadian Co., Ltd., London, Ont.
JUNCTION BOXES, cable
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
KELSEY WARM AIR GENERATOR
The Jas. Smart Mfg. Co., Limited, Brockville, Ont.
KILNS
*Sheldons, Ltd., Galt, Ont.
KINDLING
Standard Fuel Co., Toronto, Ont.
KNIFE GRINDERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*W. H. Banfield & Sons, Toronto.
KNITTED GOODS
*Penman's, Ltd., Paris, Ont.
KNIVES
*Galt Knife Co., Ltd.
*The Peter Hay Knife Co., Ltd., Galt, Ont.
Simonds Canada Saw Co., Ltd., Montreal, Que.
KNIVES, pulp and paper
Henry Disston & Sons, Toronto.
*The Peter Hay Knife Co., Ltd., Galt, Ont.
KODAKS AND PHOTOGRAPHIC SUPPLIES
Canadian Kodak Co., Ltd., Toronto.
LABELS
Lawson & Jones, Ltd., London, Ont.
LABELS, lithographed
Harris Lithographing Co., Ltd., Toronto, Ont.
LABORATORY SUPPLIES
Canadian Laboratory Supplies, Ltd., Toronto.
LACE LEATHER
F. C. McCordick, St. Catharines, Ont.
*Sadler & Haworth, Montreal, Que.
*The D. K. McLaren Belting Co., Ltd., Montreal, Que.
*The J. C. McLaren Belting Co., Ltd., Montreal, Que.
LADDERS
Stratford Mfg. Co., Ltd., Stratford, Ont.
LADDERS, step
*Otterville Mfg. Co., Ltd., Otterville, Ont.
LADLES, foundry
*Northern Crane Works, Ltd., Walkerville, Ont.
LAMP GLOBES
*Crouse-Hinds Co., Ltd., Toronto.
LARD
F. W. Fearman Co., Ltd., Hamilton, Ont.
LATH
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
LATHE CHUCKS
Ker & Goodwin, Brantford, Ont.
LATHE-DOGS
Canadian Billings & Spencer, Ltd., Welland, Ont.
LATHES
*Canada Machinery Corporation, Ltd., Galt, Ont.
LAUNCHES
Peterboro Canoe Co., Ltd., Peterboro, Ont.
LAWN MOWERS
Taylor-Forbes Co., Ltd., Guelph, Ont.
LAWN SWINGS
Stratford Mfg. Co., Ltd., Stratford, Ont.
LAVATORIES, enameled
Amherst Foundry Co., Ltd., Amherst, N.S.
LAUNDRY SINKS
Amherst Foundry Co., Ltd., Amherst, N.S.
LEAD
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
LEAD GRINDERS
Benjamin Moore & Co., Ltd., Toronto, Ont.
LEAD PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
*The Canada Metal Co., Toronto.

LEAD SHEET
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
LEATHER
The Robson Leather Co., Ltd., Oshawa, Ont.
LEATHER, bookbinders'
Clarke & Clarke, Ltd., Toronto.
LEATHER DASHES & FENDERS
*McKinnon Industries, Ltd., St. Catharines, Ont.
LEATHER, fancy
Clarke & Clarke, Ltd., Toronto.
LEATHER GOODS
Lamontagne, Ltd., Montreal, Que.
LEATHER, hemlock, union and oak sole
The Breithaupt Leather Co., Ltd., Kitchener, Ont.
LEATHER, patent colt and side leather
*A. R. Clarke & Co., Ltd., Toronto.
LEATHER, sheep skin, etc.
Clarke & Clarke, Ltd., Toronto.
LEATHER, upholstering
Clarke & Clarke, Ltd., Toronto.
LEATHER, upper
A. Davis & Son., Ltd., Kingston, Ont.
King Brothers Co., Ltd., Whitby, Ont.
LIGHTS, marine, side and port
*Crouse-Hinds Co., Ltd., Toronto.
LINK BELT, Ewart, and sawmill riveted
*Canadian Link-Belt Co., Toronto.
LINK BELTING
*The Dodge Mfg. Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
LINOLEUM
Dominion Oil Cloth Co., Ltd., Montreal, Que.
LITHOGRAPHED BUSINESS STATIONERY
Business Systems, Ltd., Toronto.
LITHOGRAPHERS
American Bank Note Co., Ottawa, Ont.
Harris Lithographing Co., Ltd., Toronto, Ont.
The Mortimer Co., Ltd., Ottawa, Ont.
LOCKERS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*Geo. B. Meadows, Wire, Iron and Brass Works Co., Toronto. Ont.
LOCOMOTIVE BLOCKS
Standard Clay Products, Ltd., St. Johns, Que.
LOCOMOTIVES, industrial
*Montreal Locomotive Works, Ltd., Montreal, Que.
LOCOMOTIVE & MARINE BRASS WORKS
The James Morrison Brass Mfg. Co., Ltd., Toronto.
LOGGING CHAIN HOOKS
*McKinnon Industries, Ltd., St. Catharines, Ont.
LOOSE LEAF BINDERS AND FORMS
Business Systems, Ltd., Toronto.
LOOSE LEAF SYSTEMS
Copeland - Chatterson Co., Ltd., Brampton, Ont.
Lowe-Martin Co., Ottawa, Ont.
LOOSE LEAF SUPPLIES
The Esdale Press, Ltd., Edmonton, Alta.
LUBRICATORS, steam sight feed
Penberthy Injector Co., Ltd., Windsor, Ont.
LUGS, for silos and water tanks
*Ontario Wind Engine & Pump Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.
*McKinnon Industries, Ltd., St. Catharines, Ont.
LUMBER
*Brown Corporation, La Tuque, Que.
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
G. & J. Esplen, Montreal, Que.
LUMBER, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.

* For Display Advertisement see Index, Page 43

LUMBER, spruce and pine, cedar railway ties and shingles
Bathurst Lumber Co., Ltd., Bathurst, N.B.
LUMBERING BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
LUMBER, red pine and spruce
Gillies Bros., Ltd., Braeside, Ont.
LUMBER, spruce, fir, larch and cedar
Fernie Lumber Co., Ltd., Fernie, B.C.
LUMBER, White pine
Gillies Bros., Ltd., Braeside, Ont.
MACHINE KNIVES
*Galt Knife Co., Ltd.
*E. C. Atkins & Co., Inc., Hamilton, Ont.
Henry Disston & Sons, Toronto.
MACHINE TOOLS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINE WORK, special and repairs
*Canadian Rumely Co., Ltd., Toronto, Ont.
*The John Whitfield Co., Toronto.
MACHINERY AND UTENSILS FOR BAKERS
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY AND UTENSILS FOR CANDY
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY AND UTENSILS FOR ICE CREAM
Fletcher Mfg. Co., Ltd., Toronto.
MACHINERY, conveying
*Canadian Link-Belt Co., Toronto.
*Canadian Mathews Gravity Carrier Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, flour mill
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, grinding
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
J. & R. Weir, Montreal, Que.
*M. Beatty & Sons, Ltd., Welland.
*Northern Crane Works, Ltd., Walkerville, Ont.
MACHINERY, ice cream
J. J. McLaughlin, Ltd., Toronto.
MACHINERY, iron working
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, pulp mill
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
MACHINERY, punching and shearing
*Canada Machinery Corporation, Ltd., Galt, Ont.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, railroad and car-shop
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*John Bertram & Sons Co., Ltd., Dundas, Ont.
MACHINERY, roadmaking
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
Sawyer-Massey Co., Ltd., Hamilton, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
MACHINERY, sawmill
The E. Long Mfg. Co., Ltd., Orillia, Ont.
P. Payette & Co., Pentanguishene, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
*Yates, P. B., Machine Co., Ltd., Hamilton, Ont.
MACHINERY, sheet metal working
Brown, Boggs Co., Ltd., Hamilton, Ont.
*Canada Machinery Corporation, Ltd., Galt, Ont.
MACHINERY, special
Bawdon Machine Co., Ltd., Toronto.
*The John Whitfield Co., Toronto, Ont.
MACHINERY, transmission
Bond Engineering Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*Goldie & McCulloch Co., Ltd., Galt, Ont.
MACHINERY, woodworking
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Yates, P. B., Machine Co., Ltd., Hamilton, Ont.
Preston Woodworking Machinery Co., Ltd., Preston, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
MACHINE WORK, special and repairs
*Canadian Rumely Co., Ltd., Toronto, Ont.
*John Whitfield Co., Toronto, Ont.
MACHINE WRENCHES
*Canadian Billings & Spencer, Ltd., Welland, Ont.
MACHINES, painting
Spramotor Co., London, Ont.
MAGNESITE
Canadian Carbonate Co., Montreal, Que.
MALT
*Hiram Walker & Sons, Ltd., Walkerville, Ont.
MALLEABLE, for carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.
MALLEABLE IRON CASTINGS
*McKinnon Industries, Ltd., St. Catharines, Ont.
Galt Malleable Iron Co., Ltd., Galt, Ont.
MAPLE PRODUCTS
*Maples, Ltd., Toronto, Ont.
MARTINGALE RINGS AND SLIDE LOOPS
The Arlington Co. of Canada, Ltd., Toronto, Ont.
MATCHERS
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
MATCHES
*The E. B. Eddy Co., Ltd., Hull, Que.
MECHANICAL STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto.
MEDICINES, patented and pharmaceutical
Dr. Ed. Morin & Cie., Ltd., Quebec.
METAL, babbitt
*Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
Alonzo W. Spooner, Ltd., Port Hope, Ont.
METAL CEILINGS
*The Pedlar People, Ltd., Oshawa, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
METAL LATH
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.
METAL PACKING
*Garlock Packing Co., Hamilton, Ont.
METAL, spinning and stamping
The Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
METAL SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
METAL SHINGLES
*The Pedlar People, Ltd., Oshawa, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
METAL STAMPINGS
Canadian Cartridge Co., Ltd., Hamilton, Ont.
METERS, water
Canadian Cartridge Co., Ltd., Hamilton, Ont.
MILK DEALERS' MACHINERY AND SUPPLIES
De Laval Dairy Supply Co., Ltd., Peterboro, Ont.
MILLBOARD, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.
MILLING CUTTERS
Pratt & Whitney Co. of Canada, Dundas, Ont.
MINING MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
MITTS AND GLOVES, Indian, tan, red deerskins
Holt, Renfrew, Ltd., Quebec, Que.
A. R. Clarke & Co., Ltd., Toronto.
MIXERS, chocolate, dough and paint
Fletcher Mfg. Co., Ltd., Toronto.
MOCCASINS AND SLIPPERS, Indian tanned leathers
Holt, Renfrew, Ltd., Quebec, Que.
MORTISERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
MOTOR CARS
*Ford Co. of Canada, Ford, Ont.
MOTORS, electric
*Canadian General Electric Co., Ltd., Toronto, Ont.
MOTORS, electric (alternating current)
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.
*T. & H. Electric Co., Hamilton, Ont.
MOTORS, electric (direct current)
*Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Consolidated Electric Co., Ltd., Toronto, Ont.
*Jones & Moore Electric Co., Ltd., Toronto, Ont.
*T. & H. Electric Co., Hamilton.
MOTORS, electric (repairing)
Consolidated Electric Co., Ltd., Toronto, Ont.
*T. & H. Electric Co., Hamilton.
MOTORS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
MOULDERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
NAILS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
NAILS, copper
Parmenter & Bullock Co., Ltd., Gananoque, Ont.
NAILS, wire
Parmenter & Bullock Co., Ltd., Gananoque, Ont.
The Graham Nail Works, Toronto.
NAPHTHA
*The Imperial Oil Co., Ltd., Toronto, Ont.
NECK YOKES
*McKinnon Industries, Ltd., St. Catharines, Ont.
NICKEL OXIDE
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
Coniagas Reduction Co., Ltd., St. Catharines, Ont.
NICKEL METAL
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
NIPPLES, for radiators
*McKinnon Industries, Ltd., St. Catharines, Ont.
NUTS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*United Brass & Lead, Ltd., Toronto, Ont.
OAKUM, plumbers, Canadian Navy
Factory Waste & Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto, Ont.
OARLOCKS
*McKinnon Industries, Ltd., St. Catharines, Ont.
OAT CRUSHERS AND FLAKERS
J. Fleury's Sons, Aurora, Ont.
OFFICE DESKS
*Goderich Organ Co., Goderich, Ont.
OFFICE EQUIPMENT
Lowe-Martin Co., Ltd., Ottawa, Ont.
*Office Specialty Co., Newmarket, Ont.
OFFICE FURNITURE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
OILS
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal, Que.
Sherwin-Williams Co. of Canada, Ltd., Montreal, Que.
OIL FILTRATION AND CIRCULATING SYSTEMS
S. F. Bowser & Co., Toronto, Ont.
OIL STORAGE SYSTEMS, self-measuring
S. F. Bowser & Co., Toronto.
OIL COMPANIES
*Canadian Oil Cos., Toronto.
Commercial Oil Co., Ltd., Hamilton, Ont.
*Imperial Oil Co., Toronto.
OILS (petroleum products)
*British American Oil Co., Ltd., Toronto, Ont.
*Dominion Oil Co., Ltd., Hamilton, Ont.
*The Imperial Oil Co., Toronto.
OILS, road
*The Barrett Co., Ltd., Toronto and Montreal.
OIL HOLE COVERS
*Canadian Winkley Co., Ltd., Windsor, Ont.
OIL CUPS, both screw top and hinge lid
*Canadian Winkley Co., Ltd., Windsor, Ont.
OILCLOTHS, floor and table
Dominion Oil Cloth Co., Ltd., Montreal, Que.
ORGANS
*Goderich Organ Co., Goderich, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
ORGANS, pipe
Casavant Freres, St. Hyacinthe, Que.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
ORGANS, parlor
*Goderich Organ Co., Goderich, Ont.
ORNAMENTAL IRON WORK
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Dennis Wire & Iron Works Co., London, Ont.
*The Geo. B. Meadows, Toronto Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
*McGregor & McIntyre, Ltd., Toronto, Ont.
OVERALLS
Peerless Overall Co., Rock Island, Que.
Walker Pant & Shirt Co., Walkerville and Chatham, Ont.
The Standard Shirt Co., Ltd., Montreal, Que.
OVERCOATINGS
Rosamond Woollen Co., Almonte, Ont.
OVERHEAD RUNWAYS
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
OXY-ACETYLENE WELDING
*L'Air Liquide Society, Montreal, Que.
*The Prest-O-Lite Co., Inc., Toronto.
OXYGEN
*L'Air Liquide Society, Montreal, Que.
PACKING BOXES
Barchard & Co., Ltd., Toronto.
PACKING, engine
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Garlock Packing Co., Hamilton, Ont.
PACKING, rubber
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Jenkins Bros., Ltd., Montreal, Que.

*For Display Advertisement see Index, Page 43

PAILS AND TUBS, wooden
The C. Beck Mfg. Co., Ltd., Penetanguishene, Ont.
PAINTERS' SUPPLIES
A. Muirhead Co., Ltd., Toronto.
PAINTS
R. C. Jamieson & Co., Ltd., Montreal, Que.
PAINTS AND VARNISHES
A. Muirhead Co., Ltd., Toronto.
Benjamin Moore & Co., Ltd., Toronto, Ont.
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
The Staneland Co., Ltd., Victoria, B.C.
A. Ramsay & Sons Co., Montreal, Que.
Standard Paint Co. of Canada, Ltd., Montreal, Que.
PAINTS, barn and bridge
Standard Paint & Varnish Co., Ltd., Windsor, Ont.
PAINTS, preservative
Standard Paint Co. of Canada, Ltd., Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.
PANELBOARDS
*Crouse-Hinds Co., Ltd., Toronto.
PAPER, book
Barber Paper & Coating Mills, Ltd., Georgetown, Ont.
PAPER BOXES
King Paper Box Co., Ltd., Montreal, Que.
*Rudd Paper Box Co., Ltd., Toronto, Ont.
PAPER, coated, book and label
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, coated box board
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, coated cover
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, envelope
*Provincial Paper Mills, Ltd., Georgetown, Ont.
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPER, enamelled blotting
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, label
*Provincial Paper Mills, Ltd., Georgetown, Ont.
PAPER, ledger
*Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPERBOARDS
*Canada Boxboard Co., Ltd., Montreal, Que.
PAPER, super-book
The Toronto Paper Mfg. Co., Cornwall, Ont.
PAPER, wall
Stauntons, Ltd., Toronto.
PAPER, waxed
Business Systems, Ltd., Toronto.
PAPER, writing
The Toronto Paper Mfg. Co., Cornwall, Ont.
Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
PAPERS, bond
*Howard Smith Paper Mills, Ltd., Montreal, Que.
*Rolland Paper Co., Ltd., Montreal, Que.
PAPERS, building
Bathurst Lumber Co., Ltd., Bathurst, N.B.
*The Riordon Pulp & Paper Co., Montreal, Que.
Standard Paint Co. of Canada, Ltd., Montreal, Que.
PARK SEATS
Stratford Mfg. Co., Ltd., Stratford, Ont.
PARLOR SUNDRIES
The Geo. McLagan Furniture Co., Ltd., Stratford, Ont.
PATENTS
Fetherstonhaugh & Co., Toronto.
Ridout & Maybee, Toronto, Ont.
*Harold C. Shipman & Co., Ottawa.
PATENT LITIGATION
Ridout & Maybee, Toronto, Ont.
*Harold C. Shipman & Co., Ottawa, Ont.
PATTERN MAKERS' BRASS DOWEL PINS
*Canadian Winkley Co., Ltd., Windsor, Ont.
PAY ROLL AUDITS
*International Business Machines, Ltd., Toronto, Ont.
PERFORATED METALS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
PERFORATED MUSIC ROLLS
The Otto Higel Co., Ltd., Toronto.
PERFUMES AND TOILET PREPARATIONS
Sovereign Perfumes, Ltd., Toronto.
PETROLEUM PRODUCTS
*The Imperial Oil Co., Ltd., Toronto, Ont.
PHOTO MAILERS
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
PIANOS
Dominion Organ & Piano Co., Ltd., Bowmanville, Ont.
*Gourlay, Winter & Leeming, Toronto, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIANO ACTIONS
The Otto Higel Co., Ltd., Toronto.
PIANO KEYS
The Otto Higel Co., Ltd., Toronto.
PIANOS, player
*Gourlay, Winter & Leeming, Toronto, Ont.
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIANO, player actions
The Otto Higel Co., Ltd., Toronto.
PIANO STOOLS AND BENCHES
*Goderich Organ Co., Goderich, Ont.
PIG IRON
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
M. A. Hanna & Co., Toronto.
PINS, society, emblems and badges
Caron Bros., Montreal, Que.
PIPE, cast iron, for water and gas
National Iron Works, Ltd., Toronto, Ont.
PIPE COUPLINGS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
PIPE COVERINGS
*Eureka Mineral Wood & Asbestos Co., Toronto, Ont.
PIPE ORGANS
Karn-Morris Piano & Organ Co., Ltd., Woodstock, Ont.
PIPES, culvert
Standard Clay Products, Ltd., St. John's, Que.
*The Pedlar People, Ltd., Oshawa, Ont.
PIPE AND NIPPLES, black and galvanized
*Canadian Tube & Iron Co., Ltd., Montreal, Que.
PIPE, sewer
Hamilton & Toronto Sewer Pipe Co., Ltd., Hamilton, Ont.
Standard Clay Products, Ltd., St. John's, Que.
PIPE, soil and fittings
Anthes Foundry, Ltd., Toronto and Winnipeg.
Warden King Ltd., Montreal, Que.
PIPE AND TUBES, wrought
*Page-Hersey Iron Tube & Lead Co., Ltd., Toronto, Ont.
PISTON RODS
*The Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.
PLANERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
PLANING MILLS
G. & J. Esplen, Montreal, Que.
PLASTERING TROWELS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
PLOWS
J. Fleury's Sons, Aurora, Ont.
PLUGS
*Crouse-Hinds Co., Ltd., Toronto.
PLUMBAGO, CRUCIBLES AND STOPPER HEADS
Dominion Crucible Co., Ltd., Montreal, Que.
PLUMBERS' SUPPLIES
The Garth Co., Montreal, Que.
The James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.
PLUMBING APPLIANCES
Standard Sanitary Mfg. Co., Ltd., Toronto, Ont.
PLUMBING SUPPLIES
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.
PNEUMATIC DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
PNEUMATIC MACHINERY
*Canadian Ingersoll-Rand Co., Sherbrooke, P.Q.
POLE LINE MATERIAL (wooden insulator top pins, side blocks, pole steps, cross arms)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.
POLES, flag
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
POLES, telegraph and telephone, cedar
Fernie Lumber Co., Ltd., Fernie, B.C.
PORK PACKERS AND CHEESE EXPORTERS
The Ingersoll Packing Co., Ltd., Ingersoll, Ont.
POSTS, split cedar fence
Fernie Lumber Co., Ltd., Fernie, B.C.
POULTRY SUPPLIES AND MEDICINES
Lee Mfg. Co., Ltd., Pembroke, Ont.
POWDER, blasting
Canadian Explosives, Ltd., Montreal, Que.
POWER PRESSES
Hydraulic Machinery Co., Ltd., Montreal, Que.
*William R. Perrin, Ltd., Toronto.
PRESERVATIVE PAINT
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
PRESSES, baling and filter
*William R. Perrin, Ltd., Toronto.
PRESSES, hydraulic
Hydraulic Machinery Co., Ltd., Montreal, Que.
PRESSES, sheet metal stamping
Brown, Boggs Co., Ltd., Hamilton, Ont.
*Canada Machinery Corporation, Ltd., Galt, Ont.
PRESSES, veneer
*Canada Machinery Corporation, Ltd., Galt, Ont.
PRESSED STEEL AND BRASS GREASE CUPS
*William R. Perrin, Ltd., Toronto.
PRINTERS
Rous & Mann, Ltd., Toronto, Ont.
The Mortimer Co., Ltd., Ottawa, Ont.
PRINTING AND LITHOGRAPHING
Lawson & Jones, Ltd., London, Ont.
PULLEYS
Bond Engineering Co., Toronto.
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
PULLEYS, wood split
*Bernard Industrial Co., Fortierville, P.Q.
PULP, bleached sulphite
The Edward Partington Pulp & Paper Co., St. John, N.B.
Riordan Sales Co., Ltd., Montreal, Que.
PULP, unbleached sulphite
Riordan Sales Co., Ltd., Montreal,
PULP, sulphate and sulphite
Bathurst Lumber Co., Ltd., Bathurst, N.B.
PULP
*Brown Corporation, La Tuque, Que.
PUMPS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Bawden Machine Co., Ltd., Toronto, Ont.
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
Spramotor Co., London, Ont.
PUMPS, boiler feed
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Bawden Machine Co., Ltd., Toronto, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
PUMPS, centrifugal
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*M. Beatty & Sons, Ltd., Welland, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
PUMPS, turbine and reciprocating
*Bawden Machine Co., Ltd., Toronto, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.
PUNCHES
*John Whitfield Co.,Toronto, Ont.
*Pratt & Whitney Co., Dundas,Ont.
PYROMETERS
*Canadian Hoskins Co., Walkerville, Ont.
RADIATORS
Taylor-Forbes Co., Ltd., Guelph, Ont.
Warden King, Ltd., Montreal, Que.
RAILINGS, brass and iron
*Dennis Wire & Iron Works Co., London, Ont.
RAILS, light
Hammant Steel Car & Engineering Works, Hamilton, Ont.
RAILWAY SIGNAL APPLIANCES
General Railway Signal Co. of Canada, Ltd., Montreal, Que.
RAILWAY SUPPLIES
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
B. J. Coghlin Co., Ltd., Montreal, Que.
RAILWAY TARIFF BINDERS
The Esdale Press, Ltd., Edmonton, Alta.
READY-TO-WEAR GARMENTS, ladies'
H. C. Boulter Co., Ltd., Toronto.
REAMERS
*Pratt & Whitney Co., Dundas, Ont.
*Butterfield & Co., Rock Island, P.Q.
RECEPTACLES
*Crouse-Hinds Co., Ltd., Toronto.
REED AND RATTAN GOODS
Canada Furniture Mfgs., Ltd., Woodstock, Ont.
REFRIGERATORS
Sanderson-Harold Co., Ltd., Paris, Ont.
Lee Mfg. Co., Ltd., Pembroke, Ont.
REFRIGERATING MACHINERY
The Linde Canadian Refrigeration Co., Ltd., Montreal, Que.
REFRIGERATORS, store, homes and institutions
Ham & Nott Co., Ltd., Brantford, Ont.
John Hillock & Co., Ltd., Toronto.
REINFORCEMENT BARS
*Burlington Steel Co., Ltd., Hamilton, Ont.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Trussed Concrete Steel Co., Ltd., Walkerville, Ont.
REINFORCEMENT FOR CONCRETE
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
REINFORCEMENT FOR CONCRETE ROOFING, metal
*The Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co., Ltd., Walkerville, Ont.
REVOLVING DOORS
*A. B. Ormsby Co., Ltd., Toronto.
RINGS, gold
Caron Bros., Montreal, Que.
RIVETERS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
RIVETS
*Canadian Tube & Iron Co., Ltd., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal.
RIVETS, bifurcated and tubular
Parmenter & Bullock Co., Ltd., Gananoque, Ont.

*For Display Advertisement see Index, Page 43

RIVETS AND BURRS, iron, copper and brass
Parmenter & Bullock Co., Ltd., Gananoque, Ont.
ROCK DRILLS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
ROLLING STEEL DOORS
*A. B. Ormsby Co., Ltd., Toronto.
ROLL PRINTING
*Autographic Register Co., Ltd., Montreal, Que.
Business Systems, Ltd., Toronto.
ROOFING, metal
*A. B. Ormsby Co., Ltd., Toronto.
ROOFING, ready to lay
Standard Paint Co. of Canada, Ltd., Montreal, Que.
*The Barrett Co., Ltd., Toronto and Montreal.
ROOF TRUSSES
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal, Que.
ROPE
*Doon Twines, Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.
ROPE, cotton
Hamilton Cotton Co., Hamilton, Ont.
RUBBER FOOTWEAR
Ames Holden, McCready, Ltd., Montreal, Que.
*Gutta Percha & Rubber Ltd., Toronto, Ont.
The Miner Rubber Co., Ltd., Grandy, Que.
RUBBER GOODS
*Canadian Consolidated Rubber Co., Ltd., Montreal, Que.
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Limited, Toronto.
RUBBER MOULDS
Bawden Machine Co., Ltd., Toronto, Ont.
RUBBER PACKING
*Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Garlock Packing Co., Hamilton, Ont.
RULES
The Lufkin Rule Co. of Canada, Ltd., Windsor, Ont.
SADDLERY HARDWARE
*Dominion Forge & Stamping Co., Walkerville, Ont.
*McMinnon Industries, Ltd., St. Catharines, Ont.
SAFES
*Goldie & McCulloch Co., Ltd., Galt, Ont.
J. & J. Taylor, Ltd., Toronto.
SAMPLE CASES
The M. Langmuir Mfg. Co., of Toronto, Ltd., Toronto, Ont.
J. Eveleigh & Co., Ltd., Montreal, Que.
SAND RAMMERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
SANDPAPER
*Delaney & Pettit, Ltd., Toronto.
SASH CORD, cotton
Hamilton Cotton Co., Hamilton, Ont.
SALT
Canadian Salt Co., Ltd., Windsor, Ont.
*Dominion Salt Co., Ltd., Sarnia, Ont.
SANITARY PAPER TOWELS
*E. B. Eddy Co., Ltd., Hull, Que.
SAW SHARPENING MACHINERY
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
SAWS
*E. C. Atkins & Co., Ltd., Hamilton, Ont.
Henry Disston & Sons, Ltd., Toronto, Ont.
Shurly & Deitrich, Galt, Ont.
SAWS, cross-cut and band
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.
SAWS, circular mill
Shurly & Deitrich, Galt, Ont.
SAWS, hack
*Victor Saw Works, Ltd., Hamilton, Ont.
SAWS, of all kinds
Simonds Canada Saw Co., Ltd., Montreal, Que.
SAWS, rip
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
Shurly & Deitrich, Galt, Ont.
SAWMILLS
G. & J. Esplen, Montreal, Que.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.
SAW MILL MACHINERY
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
SAWS, specialties
*Victor Saw Works, Ltd., Hamilton, Ont.
SCALES
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton, Ont.
SCALES, counter
The Gurney Scale Co., Hamilton, Ont.
SCALES, railway track, etc.
The Gurney Scale Co., Hamilton, Ont.
SCREENS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
SCREEN DOORS AND WINDOWS
Sanderson-Harold Co., Ltd., Paris, Ont.
Ham & Nott Co., Ltd., Brantford, Ont.
SCREWS
*John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
*The National Acme Mfg. Co., Montreal, Que.
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Stowell Screw Co., Ltd., Montreal, Que.
SCREW PLATES
*Butterfield & Co., Rock Island, P.Q.
SECURITIES, engraved
American Bank Note Co., Ottawa, Ont.
SERGES
Rosamond Woollen Co., Almonte, Ont.
SHAFTING
Canada Forge Co., Ltd., Welland, Ont.
Bond Engineering Co., Toronto.
*Canadian Drawn Steel Co., Ltd., Hamilton, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*Union Drawn Steel Co., Ltd., Hamilton, Ont.
*Dodge Mfg. Co., Ltd., Toronto.
SHANTY BLANKETS
Slingsby Mfg. Co., Ltd., Brantford, Ont.
SHAPERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.
SHEAR BLADES, iron
*Galt Knife Co., Ltd.
The Peter Hay Knife Co., Ltd., Galt, Ont.
SHEATHING
*The Barrett Co., Ltd., Toronto and Montreal.
SHEATHING, asbestos corrugated
*Eureka Mineral Wool & Asbestos Co., Toronto, Ont.
SHEET METAL STAMPINGS
Acme Stamping & Tool Works, Ltd., Hamilton, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.
*W. H. Banfield & Sons, Ltd., Toronto, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.
SHEETS, Etc.
*Tallhan Brass & Metal Co., Hamilton, Ont.
SHEETS, galvanized
*Dominion Sheet Metal Co., Ltd., Hamilton, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.
SHINGLES
Bathurst Lumber Co., Ltd., Bathurst, N.B.
SHINGLE SAWS
*E. C. Atkins & Co., Inc., Hamilton, Ont.
SHIP BUILDERS
J. & R. Weir, Montreal, Que.
SHIRTS
John W. Peck & Co., Ltd., Montreal, Que.
SHIRTS, workmen's
*A. R. Clarke & Co., Ltd., Toronto.
SHOE PEGWOOD
O. Chalifour, Quebec, Que.
SHOE LININGS
Galt Knitting Co., Ltd., Galt, Ont.
SHOES, running and athletic
Ames - Holden - McCready, Ltd., Montreal, Que.
SHOOKS
Barchard & Co., Ltd., Montreal.
SIGNAL CELLS
Canadian National Carbon Co., Ltd., Toronto.
SILENT CHAIN DRIVES
*Canadian Link-Belt Co., Toronto.
SILVER BULLION
Coniagas Reduction Co., Ltd., St. Catharines, Ont.
*Deloro Smelting & Refining Co., Ltd., Deloro, Ont.
SILVERSMITH
Canadian Wm. A. Rogers, Ltd., Toronto, Ont.
Standard Silver Co., Toronto, Ont.
SILVERWARE, sterling
Roden Bros., Ltd., Toronto, Ont.
SINGLETREES
*McKinnon Industries, Ltd., St. Catharines, Ont.
SINKS, enamelled
Amherst Foundry Co., Ltd., Amherst, N.S.
SKATES, figure
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, genuine Acme
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, hockey
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKATES, ice
Canada Cycle & Motor Co., Ltd., Toronto, Ont.
SKIFFS
Peterboro Canoe Co., Ltd., Peterboro, Ont.
SKYLIGHTS
*A. B. Ormsby Co., Ltd., Toronto.
*The Pedlar People, Ltd., Oshawa, Ont.
SLEIGHS
Tudhope-Anderson Co., Ltd., Orillia, Ont.
SLIPPERS
Ames - Holden - McCready, Ltd., Montreal, Que.
SLOTTERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
SMALL METAL STAMPINGS, in quantities
*Canadian Winkley Co., Ltd., Windsor, Ont.
SMOKE CONSUMERS
*The Jones Underfeed Stoker Co., Ltd., Toronto, Ont.
SMOKE-STACKS
*Steel Trough & Machine Co., Ltd., Tweed, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
SNAPS, for harness
*McKinnon Industries, Ltd., St. Catharines, Ont.
SOAPS
J. Barsalou & Co., Ltd., Montreal.
SOAP (soft, oil)
The Imperial Varnish & Color Co., Ltd., Toronto, Ont.
Sherwin-Williams Co. of Canada, Ltd., Montreal, Que.
SOCKETS
*Crouse-Hinds Co., Ltd., Toronto.
SODA WATER FOUNTAINS
J. J. McLaughlin, Ltd., Toronto.
SODA WATER FOUNTAINS AND ACCESSORIES
Fletcher Mfg. Co., Ltd., Toronto.
SOIL PIPE
Anthes Foundry, Ltd., Toronto.
SOLDER
Alonzo W. Spooner, Ltd., Port Hope, Ont.
*Canada Metal Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
SOLDER, silver
Geo. H. Lees & Co., Hamilton, Ont.
SOLDER, wire and bar
*American Can Co., Montreal, and Hamilton.
SOLDERING IRONS AND COPPERS
Brown, Boggs Co., Ltd., Hamilton.
SNOWSHOES
Holt, Renfrew, Ltd., Quebec, Que.
SPECIAL MACHINERY
*Globe Engineering Co., Ltd., Hamilton, Ont.
SPELTER
*Consolidated Mining & Smelting Co. of Canada, Ltd., Toronto.
SPIKES, railway and marine
Starr Mfg. Co., Ltd., Dartmouth, N.S.
SPINNING AND STAMPING
Tallman Brass & Metal, Ltd., Hamilton, Ont.
SPIRAL CONVEYORS
*Canadian Mathews Gravity Carrier Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
SPLIT PEAS
H. Murton, Ltd., Guelph, Ont.
SPIRITS
*Hiram Walker & Sons, Ltd., Walkerville, Ont.
SPOOLS
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
SPORTING MEDALS AND TROPHIES
Roden Bros., Ltd., Toronto, Ont.
SPRAYERS
Spramotor Co., London, Ont.
SPRING COTTERS
*Richards-Wilcox Canadian Co., Ltd., London, Ont.
SPRINGS
*Canadian Steel Foundries, Ltd., Montreal, Que.
B. J. Coghlin Co., Ltd., Montreal.
Guelph Spring & Axle Co., Ltd., Guelph, Ont.
SPRINGS, carriage and automobile
Guelph Spring & Axle Co., Ltd.,
SPRING SHACKLE BOLTS
*Canadian Winkley Co., Ltd., Windsor, Ont.
John Morrow Screw & Nut Co., Ltd., Ingersoll, Ont.
SPRINKLER SYSTEMS
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
*The Bennett & Wright Co., Ltd., Toronto, Ont.
*Purdy, Mansell, Ltd., Toronto.
*Vogel Co. of Canada, Ltd., Montreal, Que.
SPROCKET WHEELS
*Canadian Link Belt Co., Ltd., Toronto, Ont.
STAINS
R. C. Jamieson & Co., Ltd., Montreal, Que.
STAINS, creosote shingle
A. Muirhead Co., Ltd., Toronto.
STAMPINGS
*Dominion Forge & Stamping Co., Ltd., Walkerville, Ont.
*Wentworth Mfg. Co., Hamilton.
STAMPINGS, heavy steel
Canadian Cartridge Co., Ltd., Hamilton, Ont.
STAMPS, steel, brass and rubber
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.
STAMP MILLS
*Jenckes Machine Co., Sherbrooke, P.Q.
STATIONERY, office
Harris Lithographing Co., Toronto.
STEAM PIPE AND BOILER COVERINGS, asbestos
*Eureka Mineral Wool & Asbestos Co., Toronto.
STEAM SHOVELS
*M. Beatty & Sons, Ltd., Welland, Ont.
STEAM SPECIALTIES
*C. A. Dunham Co., Ltd., Toronto.
*Darling Bros., Ltd., Montreal, Que.
*Sheldons, Ltd., Galt, Ont.
STEAM TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Mfg. Co., Ltd., Woodstock, Ont.
STEEL
*Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.
*Burlington Steel Co., Ltd., Hamilton, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
STEEL BILLETS AND BLOOMS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
STEEL BUILDINGS
*The Canadian Bridge Co., Ltd., Walkerville, Ont.
*Dominion Bridge Co., Ltd., Montreal, Que.

*For Display Advertisement see Index Page 43

*McGregor & McIntyre, Ltd., Toronto, Ont.
*MacKinnon Steel Co., Limited, Sherbrooke, P.Q.
*The Pedlar People, Ltd., Oshawa, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL CABINETS
J. & J. Taylor, Ltd., Toronto, Ont.

STEEL CASTINGS
Beauchemin & Fils, Ltd., Sorel, Que.
*Canadian Steel Foundries, Ltd., Montreal, Que.
*Dominion Steel Foundry Co., Ltd., Hamilton, Ont.
*Electric Steel & Metals Co., Ltd., Welland, Ont.

STEEL DOORS, rolling
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL FILING EQUIPMENT
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

STEEL PLATE WORK
*MacKinnon Steel Co., Limited, Sherbrooke, P.Q.
*Toronto Iron Works, Ltd., Toronto.

STEEL RODS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.

STEEL SASH
*Dennis Wire & Iron Works Co., London, Ont.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.
*The A. B. Ormsby Co., Ltd., Toronto, Ont.

STEEL SHELVING
*Dennis Wire & Iron Works Co., London, Ont.

STEEL WIRE RODS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.

STEEL WAGON HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.

STELLITE
*Deloro Smelting & Refining Co., Ltd., Deloro and Toronto.

STENCILS, brass
Pritchard-Andrews Co. of Ottawa, Ltd., Ottawa, Ont.

STEPS, for buggies and carriages
*McKinnon Industries, Ltd., St. Catharines, Ont.

STEREOTYPING
Central Press Agency, Toronto.

STOKERS
*The Jones Underfeed Stoker Co., Ltd., Toronto, Ont.

STOOLS AND BENCHES, piano and organ
*Otterville Mfg. Co., Ltd., Otterville, Ont.

STOOLS, steel factory
*Steel Trough & Machine Co., Ltd., Tweed, Ont.

STONE
The Hagersville Contracting Co., Hagersville, Ont.

STONEWARE
*Jas. W. Foley & Co., St. John, N.B.

STORAGE BATTERIES
*Canadian General Electric Co., Ltd., Toronto, Ont.

STORE FITTINGS
The Canadian Office & School Furniture Co., Ltd., Preston, Ont.

STOVES
Smith Foundry Co., Ltd., Fredericton, N.B.
Tudhope - Anderson Co., Ltd., Orillia, Ont.

STOVE LININGS
Standard Clay Products, Ltd., St. John's Que.

STOVES AND RANGES
Lee Mfg. Co., Ltd., Pembroke, Ont.
The Jas. Smart Mfg. Co., Ltd., Brockville, Ont.
McClary Mfg. Co., London, Ont.

STRAWS, paper drinking
Fletcher Mfg. Co., Ltd., Toronto.

STRAWBOARD
*Canada Boxboard Co., Ltd., Montreal, Que.

STREET LIGHTING FIXTURES
*Crouse-Hinds Co., Ltd., Toronto.

STRETCHERS, lace curtain
*Otterville Mfg. Co., Ltd., Otterville, Ont.

STRUCTURAL STEEL
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
*Dominion Bridge Co., Montreal.
*Hamilton Bridge Works Co., Ltd., Hamilton, Ont.
*Manitoba Bridge & Iron Works, Ltd., Winnipeg, Man.
*McGregor & McIntyre, Ltd., Toronto, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*The Canadian Bridge Co., Ltd., Walkerville, Ont.

STUMP EXTRACTORS
*The John Whitfield Co., Toronto.

SUIT CASES
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto, Ont.

SUPPLY DEALERS
*The Foundation Co., Ltd., Montreal, Que.

SURFACERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*P. B. Yates Machine Co., Ltd., Hamilton, Ont.

SWITCHBOARDS
*Canadian General Electric Co., Ltd., Toronto, Ont.
*Crouse-Hinds Co., Ltd., Toronto.

SWITCHES
*Crouse-Hinds Co., Ltd., Toronto.

SWITCHES, railway
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.

SWITCHES AND FROGS
*Canadian Steel Foundries, Ltd., Montreal, Que.

SWITCH STANDS
Canadian Ramapo Iron Works, Ltd., Niagara Falls, Ont.

TABLE COVERS, chenille
Hamilton Cotton Co., Hamilton, Ont.

TANKS
Canadian Ingersoll-Rand Co., Ltd., Sherbrooke, Que.
*Toronto Iron Works, Ltd., Toronto.
*Chicago Bridge & Iron Works, Bridgeburg, Ont.
Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

TANKS, steel storage
*MacKinnon Steel Co., Ltd., Sherbrooke, Que.
*Steel Trough & Machine Co., Ltd., Tweed, Ont.

TANNERS' SUPPLIES
McClary Mfg. Co., London, Ont.

TAPS
*Butterfield & Co., Rock Island, P.Q.
*Pratt & Whitney Co., Dundas, Ont.

TAPES, measuring
The Lufkin Rule Co. of Canada, Ltd., Windsor, Ont.

TELEPHONE ACCESSORIES
*Canadian Independent Telephone Co., Toronto, Ont.
*Northern Electric Co., Ltd., Montreal, Que.

TENTS
Turner, J. J., & Sons, Peterboro, Ont.
*Scythes & Co., Ltd., Toronto, Ont.

TERMINALS, electric cable
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.

TERRA ALBA
*Albert Mfg. Co., Hillsborough, N.B.

TERRA COTTA, architectural
Toronto Plate Glass Importing Co., Ltd., Toronto, Ont.

TEXTILE SUPPLIES (shuttles, bobbins, spools and picker sticks)
The Lachute Shuttle Co., Ltd., Lachute Mills, P.Q.

THUMB SCREWS
*Canadian Billings & Spencer, Ltd., Welland Ont.

TIE TAMPERS
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

TIE PLATES, for railways
*McKinnon Industries, Ltd., St. Catharines, Ont.

TILING, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Ltd., Toronto, Ont.

TIME RECORDERS
*International Business Machines Co., Ltd., Toronto, Ont.

TINWARE, lithographed
*MacDonald Mfg. Co., Ltd., Toronto, Ont.

TIRES, bicycle, auto, carriage, truck, motorcycle.
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.
*Gutta Percha & Rubber Ltd., Toronto, Ont.

TOOLS
*The John Whitfield Co., Toronto,

TOOLS, pneumatic
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.

TOOLS, track
B. J. Coghlin Co., Ltd., Hamilton.

TOOLS, sheet metal workers'
Brown, Boggs Co., Ltd., Hamilton.

TRACK, steel, portable
Hammant Steel Car & Engineering Works, Hamilton, Ont.

TRADE MARKS AND DESIGNS
Ridout & Maybee, Toronto, Ont.

TRANSFORMERS
*Canadian General Electric Co., Ltd., Toronto, Ont.
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines, Ont.

TRANSLATIONS INTO FRENCH
Raoul Renault, Quebec City.

TRANSMISSION MACHINERY
Bond Engineering Co., Toronto.
*Canadian Link Belt Co., Toronto.
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
*The Waterous Engine Works Co., Ltd., Brantford, Ont.

TRAPS
*C. A. Dunham Co., Ltd., Toronto.
*Canadian Morehead Mfg. Co., Woodstock, Ont.

TROLLEYS
*Richard-Wilcox Canadian Co., Ltd., London, Ont.
*Northern Crane Works, Ltd., Walkerville, Ont.

TRUCKS
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
The Gurney Scale Co., Hamilton.
*Northern Crane Works, Ltd., Walkerville, Ont.

TRUCKS, brick, tile and lumber
*Waterous Engine Works Co., Ltd., Brantford, Ont.

TRUCKS, motor
*National Steel Car Co., Ltd., Hamilton, Ont.

TRUCKS, warehouse and factory
The W. S. Mahaffy Co., Toronto.

TRUCKS, steel, forge and foundry
Hammant Steel Car & Engineering Works, Hamilton, Ont.

TRUCKS FOR OFFICE AND VAULT USE
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

TRUNKS
Lamontagne, Ltd., Montreal, Que.
J. Eveleigh & Co., Ltd., Montreal.
The M. Langmuir Mfg. Co. of Toronto, Ltd., Toronto.

TUBING, brass and copper
*Booth-Coulter Copper & Brass Co., Ltd., Toronto, Ont.
Canadian Seamless Wire Co., Toronto, Ont.
*Tallman Brass & Metal Co., Hamilton, Ont.
*Dominion Copper Products Co., Ltd., Montreal, Que.

TUBING, gold and silver
Canadian Seamless Wire Co., Toronto, Ont.

TUBES, ice cream
Fletcher Mfg. Co., Ltd., Toronto.

TUMBLERS, foundry
*Northern Crane Works, Ltd., Walkerville, Ont.
*Smart-Turner Machine Co., Ltd., Hamilton, Ont.

TURBINES, steam
*The Canadian Crocker-Wheeler Co., Ltd., St. Catharines.

TURBINE PUMPS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.

TURPENTINE
*Brown Corporation, La Tuque, Que.

TWEEDS
Rosamond Woollen Co., Almonte, Ont.

TWINES
*Doon Twines, Ltd., Doon, Ont.
*Shurly & Derrett, Ltd., Toronto.

TWINES, binder
Brantford Cordage Co., Ltd., Brantford, Ont.

TWINES, cotton
Hamilton Cotton Co., Hamilton, Ont.

TWIST DRILLS
*John Morrow Screw & Nut Co., Ltd., Ingersoll.
*Pratt & Whitney Co. of Canada, Dundas, Ont.
*The Wilt Twist Drill Co., Ltd., Walkerville, Ont.

UNDERWEAR
Galt Knitting Co., Ltd., Galt, Ont.

UNDERWEAR, imperial
Kingston Hosiery Co., Ltd., Kingston, Ont.

UNIONS
*Dart Union Co., Ltd., Toronto.
*Otterville Mfg. Co., Ltd., Otterville, Ont.

UPHOLSTERED FURNITURE, leather and tapestries
Imperial Rattan Co., Ltd.

VALVES
*Canadian Fairbanks-Morse Co., Ltd., Montreal, Que.
*Jenkins Bros., Ltd., Montreal, Que.
*Kerr Engine Co., Ltd., Walkerville, Ont.
T. McAvity & Sons, Ltd., St. John, N.B.
*Penberthy Injector Co., Ltd., Windsor, Ont.

VALVES, for steam and water
*Jenkins Bros., Ltd., Montreal.
*Mueller Mfg. Co., Ltd., Sarnia, Ont.
*Penberthy Injector Co., Ltd., Windsor, Ont.
James Morrison Brass Mfg. Co., Ltd., Toronto, Ont.

VALVES, pressure reducing
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

VALVES, regrinding globe, angle, cross checks, swing checks
*Mueller Mfg. Co., Ltd., Sarnia,
Penberthy Injector Co., Ltd., Windsor, Ont.

VALVES, regulating
*Mueller Mfg. Co., Ltd., Sarnia, Ont.

VALVES, rubber
Dunlop Tire & Rubber Goods Co., Ltd., Toronto, Ont.

VARNISHES
*Ault & Wiborg Co. of Canada, Ltd., Toronto, Ont.
Berry Bros., Walkerville, Ont.
R. C. Jamieson & Co., Ltd., Montreal, Que.

VAULT FITTINGS, steel
*Office Specialty Mfg. Co., Ltd., Newmarket, Ont.

VAULTS AND VAULT DOORS
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
J. & J. Taylor, Ltd., Toronto, Ont.

VENTILATING APPLIANCES
*Sheldons, Ltd., Galt, Ont.

VENTILATING SYSTEMS
Gurney Foundry Co., Ltd., Toronto, Ont.

VENTILATORS
*A. B. Ormsby, Ltd., Toronto, Ont.
*The Pedlar People, Ltd., Oshawa, Ont.

VOLTMETERS AND AMMETERS
*Crouse-Hinds Co., Ltd., Toronto.

WAGONS
Tudhope Anderson Co., Ltd., Orillia, Ont.

WAGON HARDWARE
*McKinnon Industries, Ltd., St. Catharines, Ont.

WALL COPING
Standard Clay Products, Ltd., St. John's, Que.

WASHERS
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*United Brass & Lead, Ltd., Toronto, Ont.

WASHERS, plate or wrought
London Rolling Mill Co., Ltd., London, Ont.

WASTES, wool and cotton
Factory Waste & Metal Co., Montreal, Que.
*Scythes & Co., Ltd., Toronto, Ont.

WATERPROOF, cement coating
Benjamin Moore & Co., Ltd., Toronto, Ont.
*The Barrett Co., Ltd., Toronto and Montreal.
*Trussed Concrete Steel Co. of Canada, Ltd., Walkerville, Ont.

***For Display Advertisement see Index, Page 43**

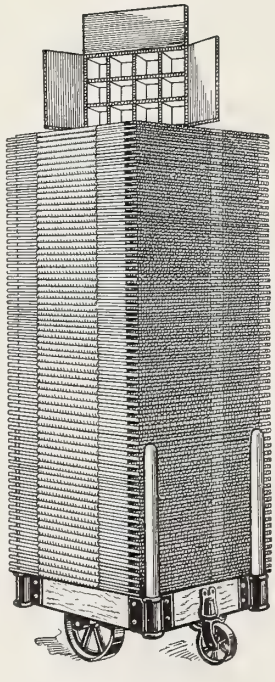
WATER WHEELS
*Canadian Allis-Chalmers, Ltd., Toronto, Ont.
WEBBING, elastic
Hamilton Cotton Co., Hamilton, Ont.
WEBBING, non-elastic
Hamilton Cotton Co., Hamilton, Ont.
WELDING APPARATUS AND MATERIALS
*The Presto-O-Lite Co., Toronto.
WELL-DIGGING TOOLS AND MACHINERY
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
WHEEL FLANGES
*McKinnon Industries, Ltd., St. Catharines, Ont.
WHEELS
*Canadian Car & Foundry Co., Ltd., Montreal, Que.
WHEELS, corundum
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
WHEELS, emery
*Canadian Hart Wheels, Ltd., Hamilton, Ont.
WELL DRILLING TOOLS AND MACHINERY
Oil Well Supply Co., Ltd., Petrolia, Ont.
WHIPS AND LASHES
Lay Whip Co., Rock Island, Que.
WHIPSOCKETS
*McKinnon Industries, Ltd., St. Catharines, Ont.
WHITE ARSENIC
Coniagas Reduction Co., Ltd., St. Catharines, Ont.

WHITE LEAD
Brandram-Henderson, Ltd., Montreal, Que.
A. Ramsay & Son Co., Montreal.
WINDMILLS
*Goold - Shapley - Muir Co., Ltd., Brantford, Ont.
*Ontario Wind Engine & Pump Co., Ltd., Toronto, Ont.
*Medicine Hat Pump & Brass Mfg. Co., Medicine Hat, Alta.
WINDOW SHADES
Daly & Morin, Montreal, Que.
WIRE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
The Graham Nail Works, Toronto.
WIRE BALE TIES
*Laidlaw Bale Tie Co., Ltd., Hamilton, Ont.
WIRE CLOTH
*Canada Wire & Iron Goods Co., Hamilton, Ont.
C. H. Johnston & Sons, Ltd., Montreal, Que.
WIRE, feeder and trolley
*Eugene F. Phillips, Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE GUARDS
*Canada Wire & Iron Goods Co., Hamilton, Ont.
C. H. Johnston & Sons, Ltd., Montreal, Que.

WIRE, insulated electric
*Northern Electric Co., Ltd., Montreal, Que.
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE, weatherproof
*Northern Electric Co., Ltd., Montreal, Que.
*Eugene F. Phillips Electrical Works, Ltd., Montreal, Que.
*Standard Underground Cable Co. of Canada, Ltd., Hamilton, Ont.
WIRE ROPE
*Dominion Wire Rope Co., Ltd., Montreal, Que.
*The B. Greening Wire Co., Ltd., Hamilton, Ont.
WIRE WORK
C. H. Johnson & Sons, Ltd., Montreal, Que.
*Canada Wire & Iron Goods Co., Hamilton, Ont.
*The Geo. B. Meadows, Toronto Iron & Brass Goods Works Co., Ltd., Toronto, Ont.
WIRING DEVICES
*Crouse-Hinds Co., Ltd., Toronto.
WOOD
Standard Fuel Co., Toronto, Ont.
WOOD BORERS
*Canada Machinery Corporation, Ltd., Galt, Ont.
*Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
WOOD PRINTERS
Barchard & Co., Ltd., Toronto.

WOOD PULP, mechanical
La Cie de Pulpe de Chicoutimi, Chicoutimi, Que.
WOODBOARD
*Canada Boxboard Co., Ltd., Montreal, Que.
WOOD SHOP, general work
*Canadian Rumely Co., Ltd., Toronto, Ont.
WOOD SPLIT PULLEYS
*Dodge Mfg. Co., Ltd., Toronto.
*The Goldie & McCulloch Co., Ltd., Galt, Ont.
WOOD STAVE PIPE
T. A. Morrison & Co., Montreal.
WOOL
*H. V. Andrews, Toronto, Ont.
WOOD TURNING
Canada Spool & Bobbin Co., Ltd., Walkerton, Ont.
WORSTED COATINGS AND SUITINGS
Rosamond Woollen Co., Almonte, Ont.
WRAPPERS, book, bottle, etc.
*The Thompson & Norris Co. of Canada, Ltd., Niagara Falls, Ont.
WRENCHES
*McKinnon Industries, Ltd., St. Catharines, Ont.
WROUGHT IRON PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
WROUGHT PIPE
*The Steel Co. of Canada, Ltd., Hamilton, Ont.
YARNS, cotton
Hamilton Cotton Co., Hamilton, Ont.
ZINC, electrical
*The Canada Metal Co., Toronto.

*For Display Advertisement see Index, Page 43



OUR SPECIALTY
FOLDING CELLBOARD
FREIGHT BOXES

ADAMS CELLBOARD COMPANY

MANUFACTURERS OF

SHIPPING CONTAINERS AND CORRUGATED PAPER

IMPORTERS OF

GUM SODA AND SEALING TAPES

We desire to have your samples or measurements to quote on when you are considering placing an order.

5 TO 21 DEFRIES STREET
AND DON ESPLANADE
TORONTO

BINDING LIST JUN 15 1939

HC
111
I4
v.20
no.1-6

Industrial Canada

PLEASE DO NOT REMOVE
SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO
LIBRARY